

2009

An Exploration of the Impact of Critical Math Literacies and Alternative Schooling Spaces on the Identity Development of High School-Aged Black Males in South Los Angeles

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UNIVERSITY OF CALIFORNIA

Los Angeles

An Exploration of the Impact of Critical Math Literacies and
Alternative Schooling Spaces on the Identity Development
of High School-Aged Black Males
in South Los Angeles

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Education

by

Clarence La Mont Terry

2009

The dissertation of Clarence La Mont Terry is approved.

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University of California, Los Angeles

2009

DEDICATION

*How can you believe,
who receive honor from one another,
and do not seek the honor that comes from the only God?
(John 5:35)*

To the One who created me, in whose eyes I am precious:

I am deeply grateful, Heavenly Father, for what you have done in my life. You have brought me from a very long way. I thank you for the love that brought my father, William, and my mother, Katherine, together. I thank you for giving me a set of parents who loved us very much, through pain and difficulty at times, in order that we might see what is good and right. Thank you for the steadfast patience that you gave my mother – patience that I tried again, and again, and again. And again. And when she was at her wits' end, you provided us with a security net.

I thank you for my Uncle Jimmy and Aunts Carol and Diane who opened their homes to their nephew as if I were their own son; who watched me play college football and who helped pay the bills. Who smiled, as proudly as parents do, as I crossed that stage. And also for my Grandmother Johnella who, with every heat-induced bloody nose, called me away from my playmates and into the shade of her apartment; she read the Scriptures to me when L.A. got hotter than my Dallas blocks had taught me to endure.

I thank you, Father, for Robin Rice. For giving her a passion for teaching and intervening in the lives of Students of Color. Were it not for her steady hand and her confident assurances & encouragements, I would never have believed that I could succeed in a white world. I thank you for Jeffery and Joanne Portman. They challenged me to give due diligence to exploring Faith, to engage in that exploration with unparalleled discipline, and – above all – to love with great joy and fervency. I thank you for giving them the power and persistence to bring me into your presence. Also for the Scotti and Ries Families – and the body of believers in Pasadena – who brought the Scriptures to life: They gave me a key to their home, made me salsa and chamomile tea, and taught me to knock a man out (in Jesus' name).

I thank you for Elmer Griffin – one of the baddest Black men in America – who was merciful when I asked him, “Are you always in professor mode?” For Nalsey Tinberg, who never relented in her expectations. And for Ron Solórzano who, with a single comment in the margin of a term paper, told me the well-kept secret to infiltrating the Academy.

Father, I am grateful for the wisdom of my committee members – Ernest Morrell, Danny Solórzano, and Mark Sawyer. For Ernest, who never neglected to pass along to me the practical wisdom his mother & grandmother gave him. For Danny, who has

committed himself and his work to *The Struggle*. And for Mark, who introduced me to an entirely new community of scholars and provided me with invaluable theoretical lenses. I very much appreciate the departmental colleagues you've placed around me at Occidental College. Their understanding of my needs and flexibility in meeting them has been tremendous. You have blessed me with a great group of friends and colleagues without whom I could not have navigated this institution and project. For Zeph – who is my main man, without doubt – and his wife Claire. I thank you for Jesse and Lauren; for Kenyatta, Terry, Jon, Moses, Stan, D'artagnan, Kyndall and Jevon – all of my brothers in WRAAAP; for Tyrone who kept it *realer* than Real Deal Holyfield, and never neglected his 'unofficial' advising duties. May the Black Male Institute be blessed.

I deeply appreciate the leadership and direction provided in the work of Danny Martin. His work has helped us think twice – thrice, even – about how to engage folks in our research community around issues of race in the math classroom. And for Rico Gutstein. His fire, honesty, and commitment to social justice greatly inspires my work. For Brenda Shockley, Keisa Davis, and everyone at Community Build, Inc. for, well, building.

I am most grateful for the knowledge, consideration and generosity of my committee chair Megan Franke. I simply could not have made this journey without her support, her direction, and the unique group of scholars that make up our DiME community. She has proven her commitment to 'equity' time and time again through personal and professional action. She is a true ally.

Finally, LORD, I thank you for my wife-to-be, my orange moon, Diane; she is the woman for whom I have prayed and waited for a very long time. I needed someone who could understand every aspect of who I am, who I am not, and who I want to be. You brought the perfect one. Her brilliance and compassion are instructive. Her smile and her sense of humor are luxurious. And her perfectly-shaped ears are uniquely-equipped to endure my most troubled days. I thank you for the faith and commitment of her parents, Donald Sr. and Charlotte – as well as her family, who have received me with open arms. Seal our paths together, LORD.

You have been gracious and forgiving to me. I humbly ask that you would take this very small seed and cause it to grow – for the sake of your people and your name. Guard me closely, Father. Do not allow me to become intoxicated with pride or intellectual snobbery. May I seek out and treasure the honor that comes from the only True God, who alone knows my real worth, rather than the praise of men and women which is like vapor. Keep my ears close to the streets, and my heart close to the neighborhood. I love you dearly and I thank you for this privilege.

In the name of your Uniquely-Born Son, whose Death and Resurrection have become my Life - Amin.

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PRESENTATIONS

- Terry, C. L. (2008, April). Teaching mathematics for ‘racial justice’: Reforming “race” in mathematics education. Paper presented at the meeting of the American Educational Research Association, New York, New York.
- Terry, C. L. (2009, April). “Does the Negro need separate schools?”: Creating alternative spaces for the mathematics education of Black males. In J. Carroll (Chair), *Working to Realize African American Academic Potential (“WRAAAP”): Revisiting Our Problems, Revealing Our Progress*. Symposium conducted at the meeting of the American Educational Research Association, San Diego, California.
- Franke, M. L., Spencer, J., & Terry, C. L. (2009, April). Narratives from the Field: Alternative spaces for the mathematics education of Black males. In M. Franke (Chair): *Identity, Equity, and Professional Development: Supporting Learning*. Plenary session lecture given at the research presession meeting of the National Council of Teachers of Mathematics, Washington, D. C.

ABSTRACT OF THE DISSERTATION

An Exploration of the Impact of Critical Math Literacies and
Alternative Schooling Spaces on the Identity Development
of High School-Aged Black Males in South Los Angeles

by

Clarence La Mont Terry

Doctor of Philosophy in Education

University of California, Los Angeles, 2009

Professor Megan L. Franke, Chair

Urban schools, for many African American students, have effectively become a space for the perpetuation of modern slavery. Large numbers of students, particularly Black males, are being funneled without choice into low-wage labor sectors, military service, underground economies and, eventually, prisons or worse. Key work by math education researchers like Martin (2000; 2006) has shown that ‘race’ and ‘racialization’ are salient aspects of African American students’ experiences in urban schools and broader society that contribute to marginalization in math classrooms and, by extension, myriad avenues of social and economic participation. By purposely grounding *race* and *identity* at the forefront of the discourse on African American math achievement, the author attempts to go beyond pipeline arguments to explore the development of racial and

mathematics identities, as well as social agency, in alternative spaces to the mathematics classroom – and the subsequent impact that these factors may have on the teaching and learning of mathematics in this study.

This dissertation study centers on the experiences of seven high school-aged Black males with whom the author conducted participatory action research (PAR) in an alternative mathematics classroom in South Los Angeles. The study has several foci: (i) To explore identity by critically engaging high school-aged Black males in research on topics relevant to local urban communities; (ii) to engage Black males in the use of mathematics as a tool for conducting critical research, towards the end of reorienting students to the nature and utility of mathematics; (iii) to determine the degree to which the employment of a critical pedagogical stance can foster the development of (critical) mathematical literacy for these youth; and, (iv) to develop a fuller understanding of how the structures of urban schools and space shape the experience of Black males both inside and outside the math classroom.

Utilizing a critical ethnographic methodology to privilege student voice, the study highlights the alternative math classroom as a co-constructed “counter-space” (Solórzano, Ceja & Yosso, 2000) wherein *mathematical counterstory-telling* is developed as a normative and sophisticated tool for challenging dominant narratives, structures and other forces which negatively shape the schooling experiences of Black males.

PREFACE



“He was, as they say, a “tight-packer,” having learned ten years ago from a one-handed French slaver named Captain Ledoux that if you arranged the Africans in two parallel rows, their backs against the lining of the ship’s belly, this left a free space at their rusty feet, and *that*, given the flexibility of bone and skin, could be squeezed with even more slaves if you made them squat at ninety-degree angles to one another. Flesh could conform to anything. So when they came half-dead from the depths, these eyeless contortionists emerging from a shadowy Platonic cave, they were stiff and sore and stank of their own vomit and feces. Right then I decided our captain was more than just evil. He was the Devil” (Johnson, 1990., p. 120).

Why one might invoke the very powerful and terrifying imagery that has come to symbolize the Trans-Atlantic slave trade in an attempt to describe the experiences of African American students in the mathematics classrooms of America’s urban schools may not be initially apparent. At first blush, some will find the *Middle Passage* metaphor around which this study revolves crude and unwarranted. These might hold that the application of such violent imagery to the mathematics education of African Americans students – what might be naturally thought of as a caring and, indeed, loving endeavor – imputes a certain ‘unrighteousness’ to those involved in this schooling in an unjustified and slanderous manner. Perhaps others will object, believing that I have taken myself and this work far too seriously by attempting to connect an obscure dissertation study to the cornerstone historical event in African America. Worse yet, still others will believe that I have not taken this work seriously enough.

That being said, and in view of both those who will critically support and those who will reasonably challenge this work, I thought it might be important to preface my dissertation with some assurance.

Over more than three-quarters of a century ago, Carter G. Woodson wrote, “The education of the Negroes, then, the most important thing in the uplift of the Negroes, is almost entirely in the hands of those who have enslaved them and now segregate them.” Woodson went on to argue that even in circumstances where schooling was controlled by Negroes, those educators could only operate within the mental framework established for them by those very same enslavers via (mis)education. As such, it seems to me appropriate to raise the question of whether African American education today has experienced any practical, if not principled, departures from the ‘Mis-education’ that Woodson so effectively articulated for us. And given the central role that mathematics literacy plays in shaping one’s world and one’s identities therein, it makes further sense to ask whether African American students have opportunities to develop this key ‘math literacy’. If so, what does that literacy look like and how does it play out for these students individually and as a group? If they do not, why is this the case and what reasonable action can be taken (and by whom) to change it?

I firmly believe that this work attempts a sober and thoughtful examination of one of the most pertinent problems facing African American urban education. The various bodies of literature in which this work is rooted bear out the reality that not only has the teaching and learning of mathematics been a largely unsuccessful endeavor in African America – a fact which brings heavy consequences – but that perhaps it is most incumbent upon actors in local contexts to engage one another in ways that will begin to actuate the critical change that is necessary to move beyond the practical and principled enslavement and segregation that have come to characterize the experience of the African Diaspora. It is my opinion that the researchers and participants involved with this study

have come together in very important ways to forge a critical awareness and understanding of their local situations, particularly vis-à-vis the broader African American experience.

This study, then, is not simply an attempt to answer what I perceive to be very meaningful research questions, but to do it both carefully and in such a way as to honor the past, present and future lives and struggles of those in the African Diaspora. As an African American man, and as a budding scholar, it is my sincere desire to do the kind of work that pays tribute to our rich history of strength and resistance, as well as the longstanding tradition of Black Intellectualism that has been indispensable to our individual and corporate growth. As such, I offer this small – and hopefully significant – contribution, not for the sake of being provocative or sensational but, rather, for the sake of being reflective of the riches and responsive to the needs of one community.

In the first chapter of this study, I provide the reader with a statement of the problem facing African American math education. Additionally, I discuss a rationale for this dissertation study along with a few words on the theory guiding my work. The second chapter frames the dissertation study theoretically, including a review of the relevant literature in which this study is rooted.

The third chapter provides a discussion of the methodology of the study relative to the context and setting. I also discuss the study design and methods I have used. The results section is composed of three data chapters: Chapters Four, Five, and Six. In these chapters I make several important claims, grounded in data, which constitute the key learning I have taken from this study. Chapter Four explores my notion of Critical Blackness; Chapter Five details key learnings around the mathematics identities of the

high school-aged Black males from this study, including the role Mathematical Counterstory plays in supporting the development of students' mathematical identities; Chapter Six looks specifically at social agency.

In the discussion section, Chapter Seven, I attempt to tie the results of this study back to my theoretical framework and the relevant literature in a way that helps the reader understand how I think this dissertation study can be situated in the field of mathematics education. I also discuss the pedagogical implications of this study for policy, practice, and future research – both within and outside of the mathematics classroom.

A Note on Language & Terms

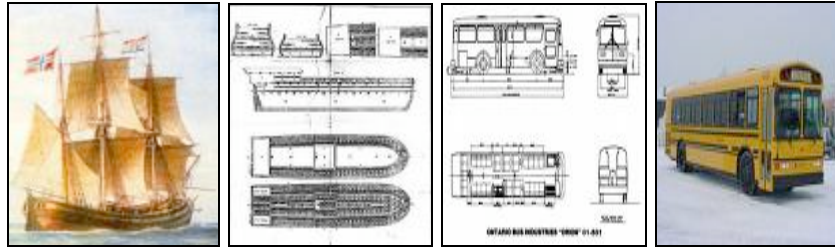
I use the following terms as references to racial identification of self and others of African descent interchangeably: *African American*, *African America*, *African in America*, *Black American*, and *Black*. While individual participants in this study may have different ethnic, cultural, and linguistic histories which they actively maintain and use to distinguish themselves from other members of the African American community, it is common for participants in this study to use these terms interchangeably as well. Further, the term “Black” (used frequently) is capitalized in text as an acknowledgement of a particular political consciousness with which many African Americans employ the term, *ala* the international movement rooted in Black Power – and in contradistinction to its use as a simple descriptor of the color ‘black’. Conversely, the term “white” as a racial descriptor is often not capitalized as a principled position to counter white supremacy as a pervasive ideological force.

The terms “nigger” and “nigga” (and other potential profanities) appear in the text when appropriate. I have taken great care to ensure that the ways in which the words appear in this text accurately and responsibly reflect their use in any outside texts engaged with over the course of this study (e.g., literature and music) or their use by participants or various individuals associated with this dissertation study.

Finally, the transcriptions of interviews and other dialogue provided in parts of this dissertation were produced in such a way as to faithfully maintain the context, content, and vernacular style in which the data is situated. At times, I use [brackets] to indicate text I have inserted to clarify implied or intended meanings as judged from my hybridized perspective as participant-observer. The text of these transcriptions should be not be read as an attempt to present the participants involved (or myself, for that matter) as illiterate, vulgar, or anything less than functionally fluent in the English language. Rather, I suggest that transcription be read, as much as is possible, in this light.

My thanks in advance to the reader for the patience and thoughtfulness you bring to the interpretation of this document.

CHAPTER 1 INTRODUCTION



*Though many died on the voyage,
those who survived would guarantee a healthy profit
for the slave traders and shipping merchants who participated in the enterprise.*

Problem Statement

There is something very troubling about the above juxtaposition of images commonly associated with school, on one hand, with that which is symbolic of the institution of American slavery, on the other. Not only is there the aspect of anachronistic dissonance one experiences with this association but there is a deeper melancholy and depression triggered by the subhuman treatment understood to be fundamental to the Institution and processes involved with slavery. For instance, while one might be very easily inclined to, upon seeing a bright-yellow school bus, recall fond memories of loving teachers or, perhaps, laughable instances of social and academic embarrassment, the dissected bowels of a Trans-Atlantic slaving vessel powerfully evokes the horrors of the Middle Passage. Despite the seeming irrelevance of the slave trade to contemporary urban schooling, this juxtaposition hints at a relationship that I will explore throughout this dissertation study: *Urban schools, for many African Americans, have effectively become a space for the perpetuation of a modern slavery.* We have long understood that the experience of African American students in American schools historically has been second-rate at best, while inhumane and criminal at worst. Despite the longstanding relation of education to African American perspectives on literacy and

freedom, there is no shortage of literature documenting the challenges faced in the education of African America via schooling. (NCES, 2007; Stinson, 2006) And while several have noted the unmistakable continuation of institutional ‘stewardship’ of Africans in America, from formal slavery to the modern mass incarceration of Black men and women (Kunjufo, 2005; Wacquant, 2002; Williams, 1994), it is also clear that urban schools have an important role to play in conditioning and preparing African American students for these contemporary bonds. Nowhere is this more obvious than in the mathematics classroom.

Not more than two generations removed, Carter G. Woodson (1933/1969) implicated the role of white-supremacist pedagogies as expressed through the Eurocentric curricula with which Africans in America were schooled. He argued then that advanced mathematical knowing for the Negro, given the inescapable status as common laborer and plantation peon, has “merely made him more of a malcontent when he can sense the drift of things and appreciate the impossibility of success in visioning conditions as they really are” (p.15). The employment reality of African Americans today is still problematic: While African Americans constituted approximately 12% of the 2000 population and 11% of the 2005 labor force, roughly 1 of every 5 ‘unemployed’ and 3 of every 10 ‘long-term unemployed’ persons were African American in 2005 (BLS, 2006a); the thirty-year patterns in unemployment rates for African Americans 16 years and older is generally *twice* that of whites (BLS, 2006b); and, the median weekly earning for full-time wage and salary workers has been consistently higher for whites and Asians workers than for African Americans over the past thirty years (BLS, 2006c).

To boot, no significant change in this milieu appears forthcoming. Virtually all prominent measures of mathematical achievement brand African American students as ‘underperforming’ (NCES, 2007). Black students significantly trail their white, Asian, and (to a lesser degree) Latino peers in most categories; so much so that researchers, policymakers, educators, politicians and other stakeholders have adopted language to characterize this predicament: *The Achievement Gap* (Gamoran, 2009; Ladson-Billings, 2006; Lee, 2006). While the ‘achievement gap’ language is problematic for many reasons, it nonetheless paints an interesting picture of the plight of African American students through their K-12 academic experience. It forces one to honestly question the degree to which schools are truly serving the needs of African American students. One wonders whether African American urban youth, at the end of the day, aren’t finding themselves chained to a system that effectively perpetuates their servile status in the Nation’s economy by preparing their entrance either into ‘legitimate’ low-wage jobs, or into ‘illegitimate’ underground economies and/or the prison system (Simon & White, 1982; Wacquant, 2002) . Further, when one considers the key role that mathematics achievement has come to play in the testing and accountability structures of public schooling, in determining the quality of students’ K-12 program, in determining access to post-secondary educational opportunities and, ultimately, in determining students’ positions within the local and global economic order, understanding and intervening in the K-12 African American math experience becomes critical.

Race and racial identity are salient aspects of African American students’ experiences in urban schools as well as in broader society. The issue has been framed for over a century; Du Bois (1903) argues that Africans in America are placed in the peculiar

position of constantly viewing themselves through the perception and definition of others, resulting in a schizophrenia that is part and parcel of living in the Black body.¹ The ontological status of the Black body has, in fact, been in question in the white Mind since before the inception of the ‘American Enterprise’ and has played out in troublesome ways for African Americans throughout the history of the nation (Du Bois, 1896; Selden, 1999). The language of U.S. Constitution captures quite succinctly the conception of the African in relation to this disputed ontological status.² Africans and their descendants – due to their former status as property of (white) Americans – have historically been marginal persons; the historical construction of the African in America as Constitutionally-questionable human beings begs the question of the degree to which American society has ever intended to incorporate Africans and their descendants into democratic participation of the citizenry of this nation (Ladson-Billings, 2007; Moses, 2007). Schooling, above all then, plays a major role in shaping the African American self-consciousness as it is the primary institution responsible for the socialization of persons and their subsequent incorporation into American society (Bourdieu, 1985, 1986; Bourdieu & Passeron, 1977; Bowles & Gintis, 1976; Du Bois, 1903; Woodson, 1933/1969).

¹ “...(T)he Negro is a sort of seventh son, born with a veil, and gifted with second-sight in this American world, - a world which yields him no true self-consciousness, but only lets him see himself through the revelation of the other world. It is a peculiar sensation, this double-consciousness, this sense of always looking at one’s self through the eyes of others...an American, a Negro; two souls, two thoughts, two unreconciled strivings; two warring ideals in one dark body.” (Du Bois, 1903/1999, p. 10, 11)

² “Representatives and direct taxes shall be apportioned among the several States which may be included within this Union, according to their respective numbers, which shall be determined by adding to the whole number of free persons, including those bound to Service for a Term of Years, and excluding Indians not taxed, three-fifths of all other persons.” (U.S. Constitution)

Martin (2000, 2005) indicates that racial status serves as a marker that heavily-influences African American participation in the mathematics classroom. He argues that the distinct status these students bring into the classroom has been devalued in society to the extent that African Americans experience a restricted ability to participate in the key opportunity structures of society – particularly those where knowledge of mathematics is of supreme value (Apple, 1992; Martin, 2005). As such, learning mathematics becomes a *racialized* experience; one in which African American’s assigned status in broader society interacts with the classroom experiences that ultimately determine the course of participation in mathematics (Civil & Planas, 2004; Martin, 2005). As such, understanding how race and identity interact both within and outside of the schooling experiences of African Americans becomes of central importance.

Rationale for Study

It is difficult to move beyond the achievement gap paradigm in research on African American mathematics achievement (Gamoran, 2009; Love, 2004; Ladson-Billings, 2006). There has been a longstanding tradition of attributing the relative academic failure of African American children to both genetic and cultural causes. A cursory review of the history of urban schooling reveals the eugenicist notions that undergird the once popular “scientific” explanations of Black intelligence (Fischer et al., 1996; Selden, 1999). Blacks were, in effect, genetically-underequipped to perform at high levels mathematically. A substantive shift from the genetic to the cultural is seen in compensatory education policy. It was believed and purported that the impoverished, deficient cultural conditions in which Black students existed were the cause of their poor academic performance. More recent efforts to reform the teaching and learning of

mathematics via content standards, while constituting a significant attempt at achieving parity through an ‘equity’ lens, seem to attribute the lackluster math achievement of African American students to some measure of curricular and instructional dissonance that is brought about by these students’ status as *diverse* (Martin, 2000; 2003; Tate, 1995). In each instance, there is a degree of victim-blaming which effectively functions to mask the relevance and impact of ‘race’ and ‘racism’ on the teaching and learning of mathematics, while simultaneously excusing the unjust structures of urban schooling as well as larger social conditions which shape Black students’ experiences in institutions from interrogation.

This study represents a unique departure from this paradigm, then, because it is largely an attempt to reconcile an honest confrontation of the realities of Black achievement with a fair and balanced assessment of the social context in which urban schooling takes place. This study represents an acknowledgment of the situated nature of the teaching and learning of mathematics. Further, this study can be seen as a broader attempt to re-position the Black student of mathematics (and our understanding of this individual) as a socially-aware, critically-conscious, intellectually-capable, and academically-savvy being – i.e., by envisioning students as both critically- and mathematically-literate persons. Consequently, these goals are supported by several unique aspects which characterize my approach in this study: First, I adopt a stance on ‘race’ and ‘racism’ that is quite different from most research in mathematics education; Second, my convictions about the nature and utility of mathematical content knowledge distinguish this work from other studies in the field, particularly when considering the level of mathematical rigor and understanding at which this study aims; Lastly, this

framing of race and racism in the teaching and learning of mathematics has led me to take very particular pedagogical and curricular stances which are distinct from the large proportion of research in math education and achievement as it pertains to African American students.

This study purposely grounds the issues of *race* and *identity* at the forefront of the discourse on African American math achievement. While I regard achievement and access as important goals of all math instruction (i.e., closing the achievement gap), I attempt to go beyond pipeline arguments and a simplistic framing of ‘equity as equal access’ in this study to explore the development of racial and academic identities, as well as social agency, vis-à-vis mathematical activity in non-school classroom settings. The study has several foci:

- (i) To explore identity by engaging high school-aged Black males in critical research on topics relevant to local communities in South Los Angeles;
- (ii) to engage Black males in the use of mathematics as a tool for conducting critical research, towards the end of reorienting students to the nature and utility of mathematics;
- (iii) to determine the degree to which the employment of a critical pedagogical stance can foster the development of critical and mathematical literacies for these youth; and,
- (iv) to develop a fuller understanding of how the structures of urban schools and urban space shape the experience of Black males both inside and outside the math classroom..

Guiding Theory

The Tradition of African American Philosophy of Education

The heart of this study, then, is largely to examine the intersection of race and identity in the mathematics classroom. I hope that this study will lay important groundwork which will allow me to generate broader theory on the teaching and learning of mathematics and its relationship to *racial justice*³ in the field of mathematics education. While I will provide a detailed and thorough development of my theoretical framework in Chapter 2, it makes sense to say a few words here about the theory that is guiding this study.

Described more thoroughly in Chapter 3, *Angeles Park*⁴, a South Los Angeles local community, provides a very unique setting in which to explore the aforementioned focal issues - particularly given the local history of the community relative to the historical development of Black Los Angeles. Over the course of the past two academic years, I have worked in Angeles Park with students and teachers at *Slauson Senior High School*⁵ in several contexts. Slauson High is one of three predominantly African American (non-magnet) high schools in the Los Angeles Unified School District (LAUSD) and Greater Los Angeles. My past work with Slauson students and teachers in math classrooms, as well as with school/community members within the broader neighborhood of this particular district of South Los Angeles, has led me to think very

³ There is a small movement within the community of mathematicians, math educators and researchers dedicated to teaching *math for social justice*. My work adds a racial lens to this movement as an attempt to move towards ‘equity’ in math ed., resulting in a perspective which I refer to as ‘Math for Racial Justice’.

⁴ Pseudonym.

⁵ Pseudonym.

specifically about the connections between the African American struggle for literacy and freedom, as well as the role of protest in that struggle.

From deep within the slave narratives of Olaudah Equiano (1745/2003) and Frederick Douglass (1845/1997) come clear relationships between literacy and freedom. Equiano's understanding of oceanic navigation and Douglass' ability to read and write clearly prefigured for them Freedom, as they recognized literacy as a fundamental prerequisite to both psychological and physical freedom from the Peculiar Institution. This is also apparent in African American efforts in the post-bellum South, during Reconstruction, and in the subsequent moves toward the secondary/post-secondary education of the Negro made possible through Negro common schools and the historically-Black college and university system. The earliest Negro scholars position literacy as key in the struggle towards freedom and upward mobility –away from slavery (Du Bois, 1903; Washington, 1901; Woodson, 1933). As Perry (2003) argues, not only do we observe that the struggle for literacy (and education, more broadly) has been central in the development and propagation of a specific African American philosophy of education but that, further, there is an important relationship between the propagation of this philosophy and African American identity formation. Further, Richards and Lemelle (2005) argue for the need to look at education through the lens of protest and revolution, rather than as simply housed within the walls of schools, in order to recognize and understand the types of knowledge that can/do come from 'communities'. Rather than promote discrete classes of knowledge (i.e., school knowledge, home knowledge, community knowledge), this type of perspective on education can serve as "part of a holistic response to the larger struggle for self-determination and self-definition"

(Richards & Lemelle, 2005, p. 27). It is precisely this African American philosophy of education, which specifically links literacy and protest to Black identity at both the individual and community level, which has been helpful in structuring my participation in the broader Angeles Park community, as well as my thinking about how I might most productively structure my present inquiry.

Critical Mathematics Literacy

Given my thinking about the relationship between literacy and freedom, *Critical Mathematics Literacy* (Gutstein, 2005), taken as a critical pedagogical approach, has been significant in framing my work in mathematics education. Critical Math Literacy (CML) builds upon important research on ‘culturally-relevant teaching’ and ‘culturally-relevant pedagogy’ by combining a set of social justice pedagogical goals with a set of mathematical pedagogical goals in order to frame the possibility for teaching mathematics for social justice (Gutstein, 2005; Ladson-Billings, 1995). By interrogating the normative epistemological assumptions about mathematical knowledge, its technological and economic application in contemporary society, and its character in the classroom, CML allows both educators and students to take progressive, indeed radical, positions on how mathematics can and ought to be used in the math classroom and in the ‘community’ (broadly-defined). This particular approach to framing the teaching, learning, and employment of mathematics in the service of both academic excellence and social justice is relatively unique in research on African American math achievement. It allows students, for example, to learn and use rigorous mathematics to ask very tough questions – the answers to which can form the basis of their critique of the institutional

structures of their schooling experiences or the political and economic forces which shape life in their community. As such, CML is an indispensable frame for structuring how I approached this project in Angeles Park.

Critical Race Theory – Critical Blackness

Critical Math Literacy does not offer, however, any substantive theoretical framing for understanding how race plays out in the mathematics classroom. In fact, it is largely ‘colorblind’ in the sense that it fails to account for race as students engage with one another, as well as with institutional agents and community members in schools and other urban contexts (Bonilla-Silva, 2001; 2006). It is here that Critical Race Theory (CRT) has been useful in guiding my thinking about how dialogue on race, racism and power can both inform and highlight the ways in which students participate in the mathematics classroom. Further, CRT scholarship has served as a productive lens through which to engage with a body of African American scholarship on race – specifically ‘blackness’, leading to the development of what I refer to in this study as *Critical Blackness*, outlined in detail in the next chapter. Critical Blackness, in the context of this study, demands that ‘race’ needs to be front and center in our discussion of the teaching and learning of mathematics for Black students. Further, Critical Blackness has clear implications for the discourse on ‘equity’ in math education.

Participatory Action Research

The final distinction of this study is the manner in which I have structured my engagement with students. *Participatory Action Research* (PAR) is a research methodology which lends itself quite well to engaging urban youth because it includes

subjects and participants as partners in critical research around issues that have been locally-defined (McIntyre, 2000; Morrell, 2004; 2008). The relevance that students often find lacking in standard mathematics curricula is woven directly into the PAR model for students, precisely because the mathematical knowledge and research tools which are key for engaging in critical research ultimately lead to very productive critiques of the structures and environments in which urban youth find themselves situated (Morrell, 2004; Rogers, Morrell, & Enyedy, 2007). Subsequently, I believe that engaging students who are Angeles Park residents in a such process of inquiry, particularly one contextualized and theoretically-framed in the ways I have intimated in this introduction, has the potential to result in unprecedented and unparalleled trajectories of participation for students in this community. This affords, then, a very unique setting and opportunity for inquiry into the focus areas of this study.

Research Questions

This study is aimed at better understanding of the relationships between the instantiation of a particular race-informed critical pedagogy (CML), student identity, and the structures and environments associated with the schools and communities in which African American urban youth live. Given, then, the aforementioned rationale and guiding theory, this study attempts to answer three research questions:

- (1) What is the role of community and school structures in shaping the math experience of Angeles Park students? Can critical student research have a transformative impact on these structures?

- (2) What are the key critical math literacies that arise out of Angeles Park participatory action research agendas? How ought we understand these literacies relative to mathematics education and our broader institutional efforts to improve the teaching and learning of mathematics to African American urban youth?
- (3) What is the impact of critical research and critical math literacy on high school-aged Black male student identities– racial identity, mathematics identity, and their identities as social agents?

Question 1 reflects the goal of critically interrogating the structural impediments to learning and academic advancement for African American students of mathematics who live in Angeles Park. The question inquires as to the role of pedagogy and practice classroom environment in the academic experiences of Angeles Park students; how do these aid/impede student learning and achievement? Also, however, this question asks whether critical research can have any substantive impact in re-shaping these structures, thereby effectively altering what are clearly problematic trends in student access, development and achievement.

Question 2 revolves around the mathematics content knowledge, asking what significant set of important mathematical ideas emerge from and/or are required for the work students do in the context of a critical research agenda. What level of skill and achievement is necessary to participate in this critical research? Further, this question reflects a more fundamental curiosity about the significance of these particular mathematical ideas and literacies to the field's normative approaches to Black students of mathematics. In other words, what is significant about these particular content

ideas/literacies relative to this work and how, then, should we understand/situate these within the broader math education of Black males?

Question 3 ties the significant understandings from the structural analyses attempted in Question 1 with those around the emergence and significance of particular math literacies in Question 2, investigating how the creation and development of student identities are supported in this work. Of particular interest are Black male racial identity (Critical Blackness), mathematics identity (orientation to mathematics), and students' social agency. This study attempts to assess and understand the nature of these identities at the outset of the proposed study, as well as how change and development of these identities are supported – ultimately reflected in the changing participation of the students engaged in the work of critical research.

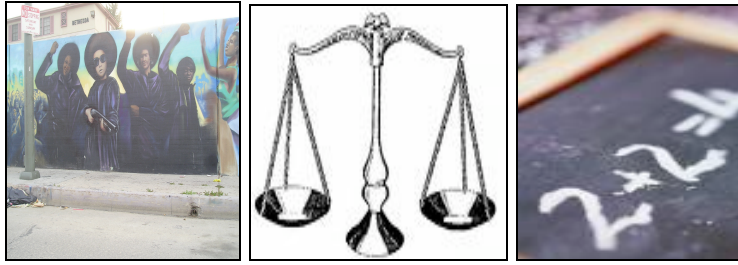
Concluding Remarks

In this introductory chapter, I have discussed what I perceive to be a key issue in the field of mathematics education – the role of mathematics pedagogy and practice in perpetuating the servile status of African Americans in contemporary society. Along with this problem statement, I have provided a rationale for this study by highlighting how its unique characteristics position it to provide a much-needed inquiry into the problem as expressed in very particular focus areas. Further, a preliminary discussion of the main theories guiding this work set the stage for the articulation of the central research questions around which this study revolves. In the next chapter, I cover in more detail the theories that I have brought to bear upon this research and, in so doing, provide the theoretical framework which structures the dissertation study. This second chapter

also explores the relevant literature in which these keys theories and ideas are rooted, to some extent, highlighting the scarcity of relevant research – thereby further underlining the need for work of this nature.

CHAPTER 2

THEORETICAL FRAME



“The white power structure today is just as much interested in perpetuating slavery as the white power structure was a hundred years ago – only now they use modern methods of doing so. And realizing that the Black people in this country are waking up and becoming filled with a desire to be looked upon as men and as human beings, the white power structure, to slow down that struggle for freedom and human dignity, uses tricks. A hundred years ago they could do it with chains. Today, they use tricks.” -- Malcolm X

Few were more articulate in declaring the clear tension lying between various structural features of the American Enterprise and the Black struggle for self-determination than Malcolm X. It is fair to say that Malcolm’s analysis above draws little-to-no distinction between the intentions of the “white power structure” towards Africans in America during American Slavery relative to those of his day. This was particularly evident in the exercising of highly-oppressive political economic force which, according to Malcolm X, had become characteristic of the white power structure’s response to Black protest within both slavery and integration contexts. It is interesting to note that while ‘Malcolm X’, who was often labeled *hatemonger* and *racist* because of his radical notions of racial justice vis-à-vis white supremacy, was adamant about the enduring racism of the government towards the African in America, ‘El-Hajj Malik El-Shabazz’⁶, the enlightened Muslim who fellowshiped with the whites he met abroad during his religious pilgrimage, was even more unequivocal:

⁶ Also known as “Malcolm X”. Upon returning from his religious pilgrimage (hajj) to Mecca, Malcolm took on a new name, using the honorific title allowed only to those Muslims who had made the holy trip.

“My argument *over there* was designed to prove that it is impossible for the United States government to solve the race problem. It’s impossible for a government which has sixteen senatorial committees over which ten are chair-manned by Southern segregationist, and twenty congressional committees over which twelve are chair-manned by Southern segregationist. This is a segregationist, racist government that’s controlled by people from the South. They can’t solve the race problem.”

It seems then that, independent of his personal feelings about white Americans and their potential to serve as allies in the attainment of civil rights for Black Americans, Malcolm X had concluded the existence of a ‘white power structure’ governing the United States which was unwilling and, in all likelihood, unable to equitably deal in matters of racial justice. This racism, it stood to reason, directly affected the life conditions and experiences of Black people in America.

My research revolves around the claim that there is something very problematic about the schooling experiences of African American students of mathematics. As noted in the first chapter, this is partially evidenced by disparate achievement in mathematics across race and, subsequently, by the formulation of the ‘racial achievement gap’ frame and discourse. In this second chapter, I lay the groundwork for this research by developing a theoretical framework for understanding the teaching and learning of mathematics for ‘racial justice’. In order to do this, I characterize the response of the math education community to the racial achievement gap, primarily as a means of demonstrating its insufficiency. It is exactly the insufficiency of the policy intervention into the teaching and learning of mathematics in African America that provides the context for the argument I want to make about what I believe is the most necessary and productive theoretical orientation towards the mathematics classroom and the African American learner. This argument, and the resulting theoretical framework, provide a new direction for scholarly inquiry into African American mathematics education –

particularly one that centers race and an analysis of racism in the teaching and learning of mathematics.

Response to the Achievement Gap

Literacy, for generations of African Americans *still* coming up from slavery, has very literally been the key to unlocking centuries of racial, cultural, socioeconomic, political and physical bondage (Freire, 1970; Freire & Macedo, 1987; Perry, Steele & Hilliard, 2003). Moses & Cobb (2001) have fairly assessed the economic position of the African American community as “serfdom” given the group’s relative level of ‘illiteracy’ in school mathematics and the clear, critical connections between K-12 math achievement, college access and, ultimately, middle-class socioeconomic status. The persistent disparities in racially-disaggregated math achievement data over the past two decades have prompted a great deal of effort by the mathematics education community to chart new and equitable directions for the teaching and learning of mathematics on a national level (Schoenfeld, 2002; Secada, 1992; Tate, 1997). However, the dominant notion of *equity* that has surfaced, constructed around the discourse of the Achievement Gap, restricts our understanding of *inequity* in mathematics education and limits the scope of scholarly inquiry into how to engender a more equitable state of affairs within the community, as well as a broader sense of mathematical literacy for African American students.

The National Council of Teachers of Mathematics (NCTM) is the face of mathematics education in the United States. Highly influential, the NCTM issued its *Principles and Standards for School Mathematics* (NCTM, 2000) in language which

recommended a corporate move towards ‘equity’ that was to be instantiated through ‘high-quality instructional programs’. The standards document emphasized that having opportunity, access, and support for learning was to be the standard for “all students, regardless of their personal characteristics, backgrounds, or physical challenges” (p.11). This particular configuration of equity pushed further than the agenda presented more than a decade earlier in *Curriculum and Evaluation Standards for School Mathematics* (NCTM, 1989) that simply framed the standards presented therein as necessary and appropriate for all students. In short, NCTM has largely been responsible for re-framing how math educators think about their practice vis-à-vis disparate group achievement (DiME CTL, 2007; Schoenfeld, 2002). This “mathematics for all” framework can be thought of as an attempt to create a broad vision of complete inclusion as a means to redress claims about unequal outcomes, i.e., the racial achievement gap. The “mathematics for all” framework, however, is an incomplete attempt at uprooting inequity for several reasons that I will briefly touch upon.

NCTM’s framing of inequity as disparate achievement ultimately frames equity *qua equality*. Secada (1989) points out that too often ‘equity’ and ‘equality’ are used interchangeably. “Equality”, he argues, “is group-based and quantitative. Equity can be applied to groups or to individuals; it is qualitative in that equity is tied to notions of justice” (p.23). What is most important here is the idea that ‘equal group outcomes’, if they are achievable through a high-quality instructional approach, do not necessarily imply that the process of educating African Americans has been *equitable*. Here, the underlying notion of equity is one in which equity is predominantly thought of as equal educational outcomes. The implicit logic of this approach is that if inequity is equivalent

to academic disparity, then equity, our goal, has been instituted when there is parity between the achievement scores of the various racial/ethnic groups.

Though progress towards group parity is important, there are other types of inequity that math educators must attend to. Even if we grant that the ‘math for all’ strategy for reforming content standards has been effective in bringing about parity in achievement – and there is substantial doubt whether it has/can (Martin, 2003) – questions about the identity development of African American students remain. The ‘mathematics for all’ framing cannot interrogate what takes place at the individual level because of its group unit of analysis, leaving questions about the well-being of individual students along various dimensions unanswered and unaddressed. Further complicating the matter, the ‘math for all’ framing is *colorblind* (Bonilla-Silva, 2003; Delgado & Stefancic, 2001; Omi & Winant, 1994). The “for all” language prescribes an intervention that treats groups and individuals similarly without adequately addressing the differential realities of the racial/cultural experience of African Americans over time (Martin, 2003). If, as is the case, the construct of race is implicated by the very fact that we can predict mathematical performance by race/ethnicity, what are we to make of solutions that ignore ‘race’ altogether? That is to say, there is some sense in which we would naturally expect an attention to ‘race’ and racism to play a role in how we address a problem that presents itself along racial lines. As such, though the increased focus on equity represented in the standards documents is laudable to some extent, the standards documents in-and-of-themselves are insufficient for driving an equitable approach to the teaching and learning of mathematics for African American students.

Reviewing Some Helpful Scholarship

So how do we move from a place where *equity* is conceived as parity in achievement to a more fundamental consideration and concern for the individual? How do we arrive at a more careful and productive notion of *racial justice* in the teaching and learning of mathematics for African American students? As I intimated earlier, I believe that centering race in the teaching and learning of mathematics is not only key to addressing the racial achievement gap but, more importantly, is the first important step to building towards the racial justice at which this study aims. In doing so, it will be important to touch base with the key work and scholarship that has helped to move us in that direction pedagogically, philosophically, and theoretically.

Bob Moses & The Algebra Project

The work of Bob Moses within the Algebra Project has been important in framing the relationship between mathematics literacy and African American civil rights. Famous for his role in organizing Mississippi voters in the early 1960s, Moses unpacks for math educators and civil rights activists the relationship between math illiteracy and Black serfdom (Moses & Cobb, 2001). The major philosophical accomplishment of Moses' work in this regard has been *tying the learning of mathematics into notions of citizenship and participation in American society for African American students*. The Project focuses on preparing students to transition into the formal study of algebra through an experiential process which taps into students' common culture and experience as a platform for developing meaningful abstractions. The process of moving from the concrete to the abstract as couched in the Algebra Project, and the subsequent success in

algebra courses project students have, are the basis for the development of African American math literacy and ultimate potential for economic access.

Culturally-Relevant Pedagogy

Ladson-Billings (1995) laid the theoretical groundwork for a culturally-relevant pedagogy (CRP) for teaching African American students that has three main goals: (a) To address the issue of disparate student achievement across content areas; (b) to facilitate the acceptance and affirmation of students' cultural identities vis-à-vis their status as "other" in academic institutions; and (c) to facilitate the development of a critical lens with which to interrogate the inequity present in social institutions like schools. Applied to mathematics, CRP presses upon teachers' need to understand deep structure of African American culture, without essentializing, and to use mathematics to develop students as democratic participants through community social change (Ladson-Billings, 1995; Tate, 1995). *This approach further highlights, though, the necessity of pedagogy and practice to positively impact student's cultural and academic identities, as well as the need to produce a critical consciousness (Freire, 1970) about the worlds in which they live and the mathematics they are learning.*

Critical Race Theory

In addition to taking great strides towards cultural relevance and academic excellence in the teaching and learning of mathematics, Ladson-Billings & Tate (1995) have been instrumental in bringing Critical Race Theory to bear upon the field of education. CRT in the field of legal studies has allowed scholars to think more carefully about the progress of racial reform in the United States, particularly as it played out in

legislative and judicial realms. As a theoretical lens in education, Ladson-Billings & Tate (1995) argue that CRT creates a space for a complete analysis of education. Working on the basis of several key premises, foremost among which is the notion that “*race continues to be a significant factor in determining inequity in the United States*” (p. 48), the authors establish the potential for an analysis of inequity in schools and schooling which is theoretically driven by ‘race’, as opposed to class, gender, culture or ethnicity. Later work (Ladson-Billings, 1998) brought this analysis to the areas of curriculum, instruction, assessment, school funding, and desegregation. While it is clear from this literature that CRT is not a lens to simply be imported from Critical Legal Studies to the field of education without a clear understanding of its history and situation within legal scholarship, the introduction of CRT into the field of education reminds us of the strategic importance and salience of race in understanding the schooling experience of African American students.

CML, Identity and Participation

As detailed in the first chapter, Gutstein’s (2006) Critical Math Literacy has been foundational in helping frame my work in the mathematics classroom given the critical pedagogical stance it takes with respect to not only mathematics but also social justice. Gutstein’s work highlights the potential of culturally-relevant teaching in mathematics combined with social justice goals in local community contexts to support and develop positive cultural identities and student agency (Gutstein et al., 1997; Gutstein, 2006; 2007). As such, CML lends itself extremely well to application in African American contexts given the broad similarities between the schooling experiences of Chicago urban youth and those in South Los Angeles (Gutstein et al., 1997; Gutstein, 2006). In the

absence of any theoretical discussion of ‘race’ in Gutstein’s model, I’ve found the work of Danny Martin particularly helpful.

In his dissertation study, Martin (2000) makes a compelling argument for viewing the teaching and learning of mathematics through a comprehensive framework that is driven by African American student identity. The theoretical frame in which Martin understands student success and failure in mathematics attempts to account for (a) the *individual learner* of mathematics, (b) the various *school forces* which come into play, (c) wider *community forces* involved in schooling, as well as (d) the broader *sociohistorical context* of African American schooling. The upshot is that this framework is able to fairly represent the wider aspects of socialization and the formation of African American identity with respect to mathematics in a way that previous research has not. Key to this study are the narratives about participants’ formative mathematics experiences that Martin is able to bring forth from both students and their parents. This allows Martin to present a more complex and nuanced portrait of individual students – as “both reactive and proactive – resisting, conforming, forming beliefs and dispositions, and constructing mathematics knowledge and identities” (p.34). The narratives, when interpreted through Martin’s multifaceted, concentric framework for understanding the impact of these factors on student identity, create significant in-roads into understanding the relationship between the mathematics experience of African American students and their various identities.

Martin’s analysis of the mathematics experiences of African Americans is made even more clear when he filters those experiences through a racial lens. Martin (2006) reports results of three ethnographic and participant observation studies involving African

American parents, students, and teachers. Making the argument that it is not simply introducing *race* into our research in mathematics education vis-à-vis African American group membership per se (for example, disaggregating mathematics achievement data by race), Martin (2006) points out that it is more productive, rather, to examine the consequences of group membership on students' situated mathematics experiences (e.g., racism, racialized experience, and racialized inequality). This allows him to "explore the socially constructed meanings for race and the consequences of these meanings in the daily lives" (of African Americans) (p.201) – particularly, as they influence students' ability to participate in learning mathematics (Civil & Planas, 2004). Allowing *race*, as such, to drive his analysis has resulted in an approach that has diverged substantially from the paradigmatic achievement gap research in math education. Such a theoretical orientation to race can place a researcher in a strategic position to understand what it might look like to teach mathematics for true *racial justice* and what the consequent learning opportunities for African American students might look like.

Developing a Frame for *Racial Justice*

While the aforementioned scholarship represents some of our more aggressive equity-minded research, the field of math education largely lacks an articulation of *racial justice* in the teaching and learning of mathematics. In the pages that follow, I will argue for a theoretical frame for racial justice. Having established this theoretical orientation, I will make comments on how this framework could be productive for engaging African American students in "math for racial justice".

There are three frames that I consider to be constitutive elements of the notion of racial justice for which I am arguing. Those frames are (1) **Critical Blackness**, (2)

Counterstory-Telling, as an expression of An African American philosophy of education, and (3) **Critical Math Literacy**. Each frame, as it were, emerges distinctively from the examination of the teaching and learning of mathematics through a combination of particular lenses – Critical Race Theory (CRT), Identity, and Critical Pedagogy. Rooted in and drawn from various bodies of relevant literature, these lenses are useful in bringing the characteristic elements of *racial justice* into relief. Hereafter I will define each frame and discuss how it is situated in relevant literature. Allow me to begin with *Critical Blackness*.

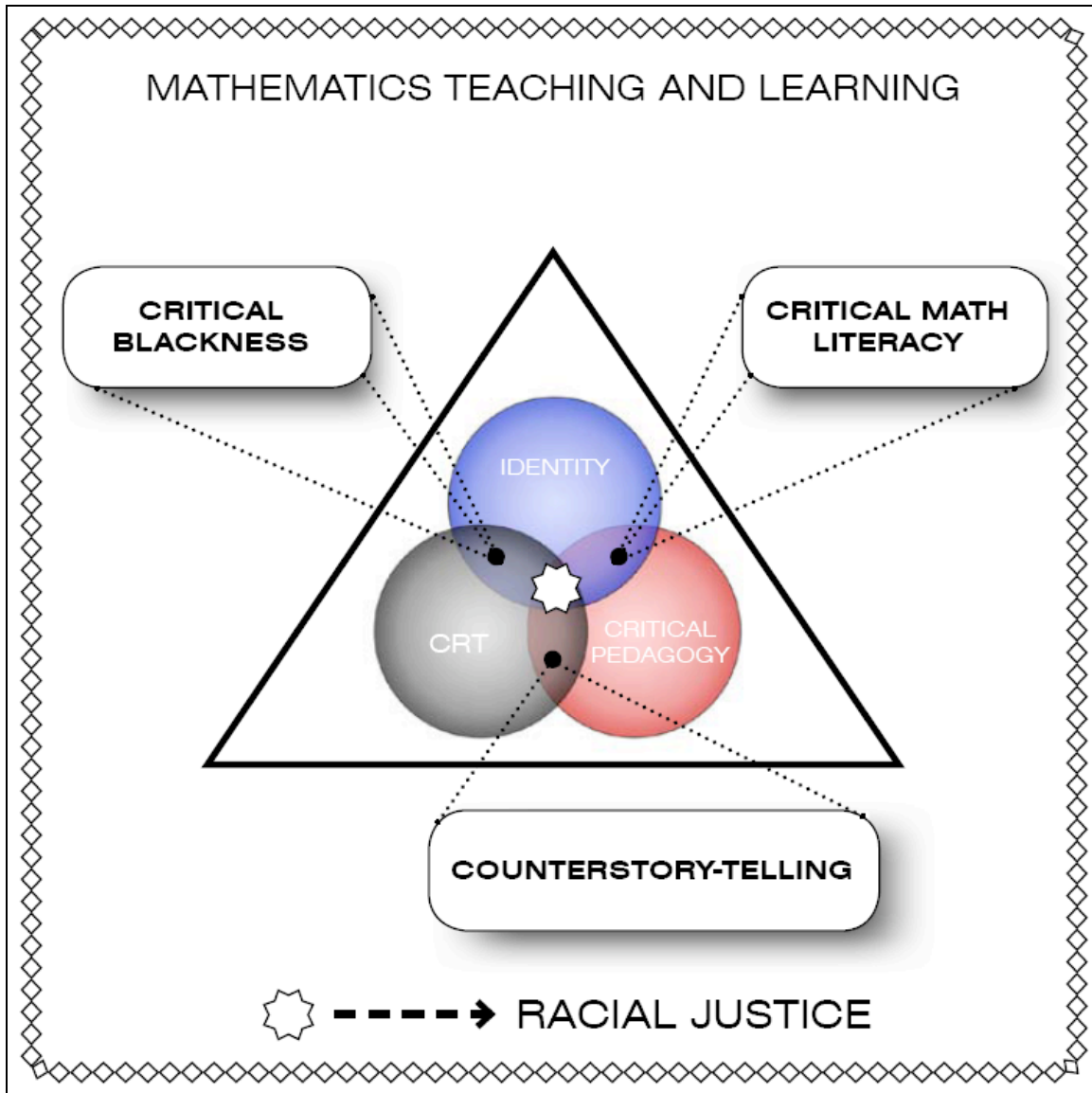


Figure 1. A Theoretical Frame for 'Racial Justice'

Critical Blackness

I am using the following definition of Critical Blackness in the proposed study:

Critical Blackness: A positive orientation towards African American racial identity coupled with a negative orientation toward white supremacist ideology, such that one's participation in/across communities tends toward the development of and/or support for *Nigrescence* (Cross, 1991).

The definition of *Critical Blackness* on which my sense of racial justice is based is rooted in a synthesis of several key aspects of the CRT and Identity literatures. One of the central premises of CRT is that, while ‘race’ is a social construct which is not grounded in any ultimate biological or genetic reality⁷, “society frequently chooses to ignore these scientific facts, creates races, and endows them with pseudo-permanent characteristics” that are used as value markers in determining one’s status in a racialized society (Delgado & Stefancic, 2001, p.8). This selection process is undergirded by the principle of white supremacy which normalizes whiteness and polarizes Blackness, creating a hierarchy of racial characteristics whereupon those falling nearest the ‘white’ end are deemed good and/or desirable, and those falling nearest the ‘black’ end are deemed evil and undesirable. As such, racism is ordinary and race is a salient factor in the experience of the large proportion of people of color.

An important corollary of this premise is that the majority of policy interventions (with few exceptions) intended to eliminate racism are ‘colorblind;’ those that deal with race-specific issues serve the convergent interests of dominant and subordinate groups. That is to say that policy interventions are typically engineered around a sense of equality which holds that all individuals should be treated equally, regardless of race; as such, only the most overt forms of racism are affected by these interventions (Delgado & Stefancic, 2001; Bonilla-Silva 2001, 2003). In fact, Bell (1992) argues that “(t)he worship of equality rules as having absolute power benefits whites by preserving a

⁷ Omi & Winant (1994) point out that although one’s *phenotype* is rooted in human biogenetics, the selection and racialization of these markers is the result of social and historical processes. “In contrast to the other major distinction of this type, that of gender, there is no biological basis for distinguishing among human groups along the lines of race. Indeed the categories employed to differentiate among human groups along racial lines reveal themselves, upon serious examination, to be at best imprecise, and at worse completely arbitrary” (p.55).

benevolent but fictional self-image, and such worship benefits blacks by preserving hope.” (p.101) While such (civil rights) legislation and policies represent convergent interests of dominant and subordinate communities, Bell calls Black Americans to temper their mentality and disposition through “racial realism” – a tacit acknowledgement that African Americans will always occupy a subordinate status in society. Argues Bell (in Crenshaw et al., 1995):

“Even those herculean efforts we hail as successful will produce no more than temporary “peaks of progress,” short-lived victories that slide into irrelevance as racial patterns adapt in ways that maintain white dominance. This is a hard-to-accept fact that all history verifies...That acknowledgement enables us to avoid despair and frees us to imagine and implement racial strategies that can bring fulfillment and even triumph.” (p.306)

Critical Blackness, then, reflects several assumptions of CRT: Race is salient; racism is a permanent fixture of the African American racial experience that plays out on an individual level, as well as on structural levels within the various institutions of American society; and Blackness as racial identity must be understood in the context of the white supremacy and dominance which is a normative aspect of American social, political, and economic life.

I also draw from foundational psychological approaches to Identity in defining Critical Blackness. The psychological literature on Black identity from the early 1970s offers a helpful model for framing changes in racial identity. The term *Nigrescence*, in fact, comes from this literature. Psychologist William Cross attempted to understand and detail the psychological changes associated with ‘becoming Black’ in the early 1970s. Cross developed a model which accounted for various stages of racial consciousness and self-concept that psychologists observed Blacks passing through during this period.

Hence Cross' *Nigrescence* (or Negro-to-Black) model became foundational in approaches to studying identity in Black psychology.

While maintaining that there is no essential or one way to be Black, the Cross model (1971, 1978, 1991) suggests that there are essentially five stages of racial identity development in the trajectory towards Blackness: Pre-encounter, Encounter, Immersion-Emersion, Internalization, and Internalization-Commitment. According to Tatum (1997), the first two of these stages are most relevant for adolescents. The *Pre-encounter* stage describes a person's pre-liberation frame of mind, one which is typically characterized by internalized white supremacist ideologies and Eurocentric frames that impact one's behavior along every societal dimension. This often results in hatred and degradation of Blackness. The *Encounter* stage begins when a traumatic personal event (often overt racism) jolts the person out of the prior frame, causing an opening up to alternate interpretations of their racial identity as situated in society. As new interpretations are understood as reasonable, the pre-encounter identity is rejected and the person moves with intention towards Blackness or Black identity. Cross (1978) points out that the third and most difficult stage of Nigrescence, *Immersion-Emersion*, is marked by extreme psychological changes, where there is great effort to deconstruct all remnants of the pre-encounter psychology combined with equal effort to immerse one's self in and understand the new psychology. He argues:

"This period of emergent identity or "just discovered Blackness" is manifested in the construction of the correct ideology and/or worldview, glorification of African heritage, dichotomous ("either-or") thinking, Blacker-than-thou attitudes, unrealistic expectations concerning the efficacy of Black Power, and the tendency to denigrate White people and White culture while simultaneously deifying Black people and Black culture" (Cross, 1978, p.17).

The second part of this stage results in a much more balanced emergent Black identity in which the person is able to more critically engage in analysis, given declining levels of defensiveness and egoism and increasing level of emotional and cognitive openness.

In the fourth and fifth stages, *Internalization* and *Internalization-Commitment*, the emergent Black identity is stable and internalized. The new Black identity has three performative functions according to Cross (1991) – (a) to shield the person from the psychological insults which are produced within racist societies; (b) to provide a sense of belonging; and (3) to provide a working framework for dealing with social interaction outside of Blackness. The fourth stage is marked by several key transitions:

“The shift is away from how your friends see you (“Am I Black enough?”) and toward confidence in your personal standards of Blackness; from uncontrolled rage toward white people to controlled anger at oppressive systems and racist institutions; from symbolic, boisterous rhetoric to serious analysis and “quiet” strength; from unrealistic urgency that can lead to dropping out to a sense of destiny that can sustain long-term commitment; from anxious, insecure, rigid, pseudo-Blackness based on the hatred of whites to proactive Black pride, self-love, and a deep sense of connection to, and acceptance by, the Black community.” (p.210)

The fifth stage, however, differs from the fourth based upon the degree to which Blackness has become a project throughout a person’s life. The internalization-commitment stage is marked by a long-term commitment to weaving one’s Blackness into one’s daily experience. Cross (1991) argues that, though there may be very little distinction between the psychology of persons in the fourth and fifth stages, internalization-commitment is marked by a sustained commitment to Blackness over time.

Though such a model has been key in exploring Blackness, it is not without critique. Cross (1991) himself points out that the bulk of scholarship on Negro identity leading up to the formulation of his model proposal was based on essentialist perspectives on the fundamental mental frame of the Black person. Most of the literature

on Black identity, according to Cross and others (Parham, 1989; Cross, 1991; Tatum, 1997), incorrectly presupposes that the Black person always begins their development of Blackness from a position of self-hatred, self-despising, and anti-Blackness. While this may be true of some, Parham (1989; 2000) argues an important exception: Certain individuals have developed orientations that do not necessarily reflect the *pre-encounter* mentality that Cross proposes – particularly if they are parented by or interact with individuals who hold positive personal identities and reference group orientations:

“Manifestations of Black identity at earlier stages of a youngster’s life (childhood) may be a reflection of externalized parental attitudes or societal stereotypes that a youngster has incorporated (Spencer, 1982) rather than a crystallized personal identity. Thus, the home environment in which a youngster is raised (including values transmitted by the parent) as well as the social environment in which he or she interacts on a daily basis will influence the adolescent’s original positions with regard to a particular stage of racial identity.” (Parham, 1989, p. 195)

Parham (1993) further argues for an African essence in Black personality that, when supported by positive environment, “achieves full expression in terms of a congruent pattern with African American culture” (p.41). While this certainly broadens the identity model beyond its essentialist assumptions, it also highlights the importance of social environment. When trying to understand adolescent identity development, then, it is particularly important to understand and account for the social environments in which adolescents participate.

A further critique offered by Parham (1989) that improves the Cross model are the notions of *recycling* and *stagnation*. ‘Recycling’ suggests that an individual can process through the identity conversion once and after internalization, provided an additional encounter event at another instance in life, can cycle through the development stages again. This is a productive addition to the model because it helps frame what might take place at later stages in Black life, accounting for variation and repetition in

experience. ‘Stagnation’, on the other hand, suggests that an individual may remain in the same stage through an extended portion of their lifespan, failing to progress in a continuous manner. The two notions help complicate Cross’ initial thinking about how Blackness plays out in the lives of African Americans.

Critical Blackness, then, incorporates important understandings drawn from the psychological literature on Black identity. Cross’s Nigrescence model helps frame my thinking about the important stages and changes in racial identity that students may experience as they participate in and across various academic and social communities. While the goal is not to develop essential profiles of Black identity with which to characterize participants, this literature does provide important connections to broader scholarship that help me make sense of identity development.

Counterstory-Telling

The second frame providing structure for the sense of racial justice I pursue in this study is that of **Counterstory-Telling**. There are two senses about counterstory-telling, as a part of this theoretical framework, that I would like the reader to understand. The first sense in which I make use of counterstory-telling directly relates to its contextual meaning in CRT scholarship: Counterstory-telling, according to CRT, is a subversive and oppositional pedagogical act. Second, African American narrative on literacy and education, as a primary feature of an African American critical pedagogy, constitutes counterstories which work to critically interrogate metanarratives concerning African American status in society vis-à-vis learning and education. Allow me to explore these statements relative to the literature.

Delgado & Stefancic (2001) define *counterstorytelling* as “writing that aims to cast doubt on the validity of accepted premises or myths, especially ones held by the majority” (p.144); this relates to their definition of ‘legal storytelling and narrative’ as “scholarship that focuses on the theory or practice of unearthing and replacing underlying rhetorical structures of the current social order, insofar as these are unfair to disenfranchised groups” (p.150). Delgado (1989), in presenting rationale for storytelling and counterstory-telling, argues that this strategy has psychic, liberatory functions. He writes:

“Stories, parables, chronicles, and narratives are powerful means for destroying mindset – the bundle of presuppositions, received wisdoms, and shared understandings against a backdrop of which legal and political discourse takes place. These matters are rarely focused on. They are like eyeglasses we have worn a long time. They are nearly invisible; we use them to scan and interpret the world and only rarely examine them for themselves. Ideology – the received wisdom – makes current social arrangements seem fair and natural. Those in power sleep well at night – their conduct does not seem to them like oppression. The cure is storytelling (or as I shall sometimes call it, counterstorytelling).” (p. 2413, 2414)

In describing the impact of counterstories, Delgado points out that they are acts which, in and of themselves, work towards the deconstruction of mindset, projected by the oppressor, internalized by the oppressed. By attacking presuppositional knowledge, counterstories help members of oppressed groups heal by making the details of their oppression directly evident and understandable – thereby creating an awareness which stands in firm contradistinction to normative explanations of subordination. This is valuable information with which to combat the internalized oppression experienced in racist society by People of Color. Counterstory-telling is key to building group solidarity among (and across) members of oppressed groups. Counterstories further challenge the complacency of members of the dominant group by providing an opportunity for them to confront their own presuppositions and reckonings around the dominant narratives

concerning race, society, and their specific role in perpetuating racism. This yields additional benefits for oppressed peoples insofar as it can also help deconstruct the dominant narrative in the minds of the oppressors, thereby allowing for mutual struggle towards their liberation. *As such, counterstory-telling is a subversive act; counterstory-telling is a critical pedagogical act* (Lynn, 1999; 2004).

Counterstories are key to pursuing racial justice in legal studies (Bell, 1987; 1992; Crenshaw et al., 1995). They are also found in CRT approaches to pursuing racial justice in education (Solórzano, 2001; Solórzano & Yosso, 2002; DeCuir & Dixson, 2004; Dixson & Rousseau, 2005; 2006). While counterstories have valuable performative function in CRT scholarship, the notion of voice and narrative predates the formalization of CRT proper, as CRT scholars often indicate. For Africans in America, voice and narrative have been key in the development of identity. Narrative, as it were, is clearly interwoven throughout the philosophical underpinnings of African American education.

Although the coining of the term is generally credited to Henry Giroux (1983), it should go without saying that *Critical Pedagogy*⁸, as a body of scholarship, has “emerged from a long historical legacy of radical social thought and progressive educational movements that aspired to link the practice of schooling to democratic principles of society and to transformative social action in the interest of oppressed communities” (Darder, Baltodano, & Torres, 2003, p. 3). Nowhere is this political resistance more evident than in African American educational movements. Theresa Perry (2003) argues

⁸ While perhaps a more normative treatment of critical pedagogy would be rooted in and detailed through the critical theory of Frankfurt School, might discuss the relationships between and contributions of Gramsci/Foucault/Marcuse, and include the contributions of its contemporary exponents, I have largely chosen to avoid such theoretical explications here. My ultimate purpose is not to trace the lineage of *critical pedagogy vis-à-vis critical theory*, but rather to address theory/theorists insofar as doing so helps to illuminate the immediate context pertaining to the establishment of a theory of *racial justice*.

that African Americans “developed a philosophy of Education that was passed on in oral and written narratives. Moreover, narratives were not only the vehicle for passing on this philosophy, but they also had a discursive function. They were central to identity formation of African Americans as intellectually capable people.” (p.12)

In this study, I conceive of African American philosophy of education as a *critical pedagogy* through its use of narrative as counterstory-telling. While opposition to the education of slaves was a characteristic position of the white governors of the Institution in the American South (Du Bois 1903/1999; Eaton, 1936; Anderson, 1988), literacy was often a characteristic trait of individual leaders of various slave rebellions/revolts. Kilson (1964) argues that the leaders of what are likely the most famous slave rebellions/revolts in African American history – Gabriel Prosser (Virginia-1800), Telemaque [“Denmark”] Vesey (South Carolina-1821), and Nat Turner (Virginia-1831) – were all literate men. Anderson (1988) points out that the movement among slaves towards literacy was not a phenomenon unique to a few extraordinary individuals in the antebellum South: “Despite the dangers and difficulties, thousands of slaves learned to read and write. By 1860, about 5 percent of the slaves had learned to read.” (p.16) Further, “(t)heir ideas”, Anderson suggests, “about the meaning and purpose of education were shaped partly by the social system of slavery under which they first encountered literacy...(t)hey viewed literacy and formal education as means to liberation and freedom.” (p.17) Anderson (1988) indicates that, despite political opposition from the planter class, African Americans reduced illiteracy from 95 percent in 1860 to 70 percent in 1880 – and further to 30 percent by 1910.

As many have argued (Perry, 2003; Moses & Cobb, 2001; Ladson-Billings, 2006), there is a clear link between literacy and freedom. This relationship has become the cornerstone of the African American philosophy and pursuit of education – as literacy and education have been the bedrock of African American democratic participation, citizenship, and leadership. There is something, then, to the development of narrative that has indelible impact on white supremacist ideology and, ultimately, on one's orientation to and explanation of the African American experience. It seems productive, then, to dedicate some space to detailing in more conceptual terms how in my view African American philosophy of education constitutes a critical pedagogy through the counterstory-telling function of African American narrative.

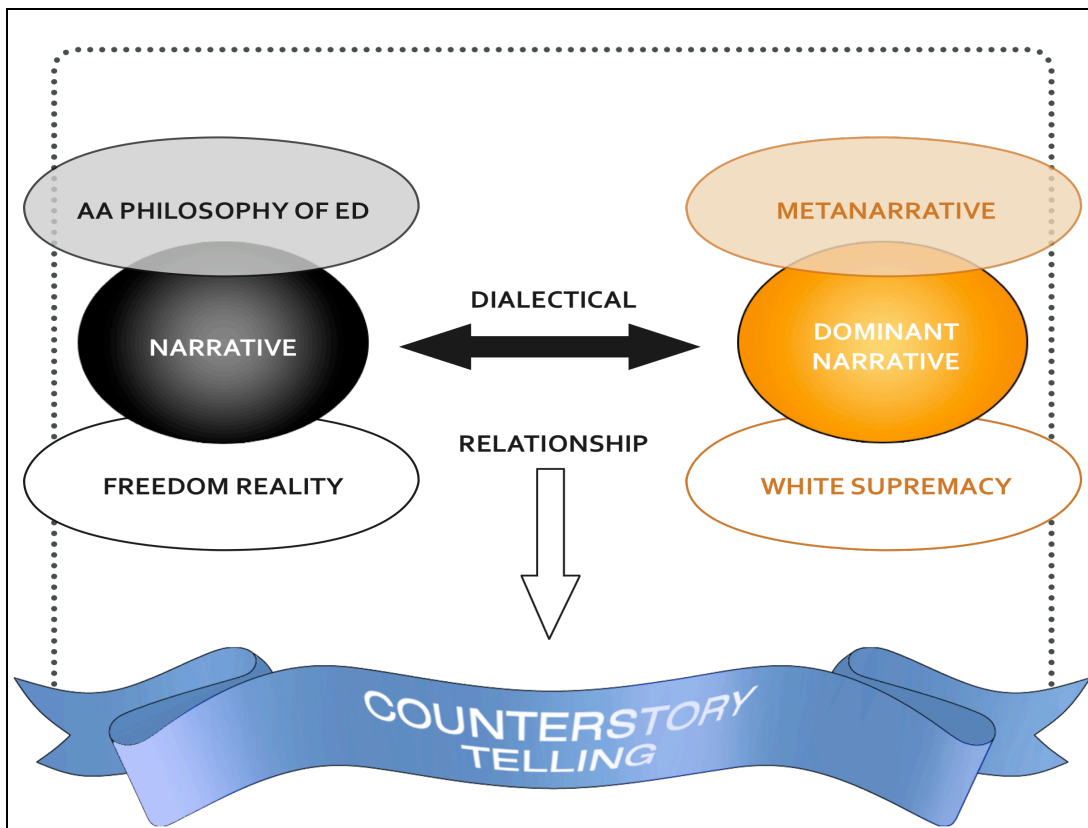


Figure 2. Counterstory-Telling as a Product of Competing Narratives

Counterstory-Telling involves the production and reproduction of local narratives to counter the apparent and accepted wisdom of master- or metanarratives. Figure 2 suggests that, in African American counterstories, a dialectical relationship exists between ‘Narrative’ as an expression of an African American viewpoint reflecting belief in an ultimate “freedom reality” and ‘Dominant Narrative’ as an expression of a viewpoint reflecting belief in “white supremacy”. Not all narratives, however, should be considered counterstories. In my thinking, a narrative constitutes a counterstory when it (a) contains a kernel or representation of the dominant narrative such that it communicates a clear understanding of that dominant narrative and its implications to the communicant, and when it (b) provides the communicant (in the form of a competing narrative) reasonable and sufficient grounds for contradicting the dominant narrative, while (c) allowing the communicant to access the larger ‘freedom reality’ towards which the competing narrative pushes.

In this dialectical relationship, counterstories which, for example, assert the ex-slave and his/her descendants as self-motivated, literate persons organized around drives for literacy and education are antithetical to the dominant narratives (undergirded by white supremacy) which position African Americans on the margins of schooling, ultimately as unintelligent, incapable underachievers who generally hold negative dispositions toward education and are relatively unmotivated to succeed. As such, counterstories and dominant narratives exist in tension because they are expressions of underlying ideologies which are, at heart, in contention with one another. That is to say, the very tension that exists between African American narrative and dominant narrative represents a more fundamental tension between an African American ‘freedom reality’ –

an acknowledgment of and striving towards freedom and self-determination as the natural state of the African – and white supremacy – the false notion of inherent European superiority which strives toward domination of People of Color. An analogous tension is observed between the abstract themes and/or ideas which overarch the two types of narrative – African American philosophy of education and the white supremacist metanarrative.

Let us consider an example of how African American narrative functions as counterstory. Frederick Douglass published his *Narrative of the Life of Frederick Douglass: An American Slave* in 1845. This text provides a classic depiction of the conscientization of the slave towards bondage and, by extension, towards liberation. Writes Douglass (1845/1997):

“...[Mrs. Auld] assisted me in learning to spell words of three or four letters. Just at this point of my progress, Mr. Auld found out what was going on, and at once forbade Mrs. Auld to instruct me further, telling her, among other things, that it was unlawful, as well as unsafe to teach a slave to read. To use his own words, further, he said, “If you give a nigger an inch, he will take an ell. **A nigger should know nothing but to obey his master – to do as he is told to do. Learning would *spoil* the best nigger in the world...if you teach that nigger (speaking of myself) how to read, there would be no keeping him at all”...**These words sank deep into my heart, stirred up sentiments within that lay slumbering, and called into existence an entirely new train of thought. It was a new and special revelation, explaining dark and mysterious things, with which my youthful understanding had struggled, but struggled in vain. **I now understood** what had been to me a most perplexing difficulty – to wit, **the white man’s power to enslave the black man...From that moment, I understood the pathway from slavery to freedom.**” (p.33)

In this passage we observe Douglass’ understanding of the role illiteracy played in perpetuating the bondage of Africans in America and the consciousness that emerged from witnessing his master’s reaction to the prospect of his literacy. This experience is of particular interest because not only does Douglass, herein, conceive of education as a means to a liberatory end but his narrative quite clearly demonstrates the satisfaction of several key criteria which I suggest establish its constitution as counterstory-telling.

First, embedded in Douglass' narration is an expression of the dominant narrative as communicated in the rebuke of Mrs. Auld by her husband, Douglass' former master, Mr. Auld. Mr. Auld communicates several key beliefs about Douglass' illiteracy which reflect a white supremacist ideology. Specifically, Mr. Auld argues: "**A nigger should know nothing but to obey his master – to do as he is told to do. Learning would spoil the best nigger in the world.**" This statement is a representation of dominant narrative as it asserts several key understandings – primarily, it asserts (i) Frederick Douglass' ontological status as *nigger* and *slave*; it also asserts (ii) that knowing *how to* and that *to obey* one's master is necessary and sufficient knowledge for existence as nigger; finally, (iii) that Douglass' existence as anything other than slave would be a *spoiled* or *ruined* version of his ultimate purpose, i.e., an undesirable corruption of his principal form. Implicit in Mr. Auld's role as communicator of this dominant narrative is his positioning as possessor and distributor of knowledge – the one who ultimately knows.

Second, and fortunately for Douglass, inherent in Mr. Auld's rebuke is the pretext for the competing narrative which forms the basis for Douglass' counterstory. Says Auld: "**...Learning would spoil the best nigger in the world...if you teach that nigger (speaking of myself) how to read, there would be no keeping him at all.**" In this portion of Auld's statement, we read several competing assertions: (i) The thoughts Douglass has experienced as a result of his interactions with Mrs. Auld have to do with *learning* – which is fundamentally different in process and substance than possessing the knowledge required to be a 'nigger'; (ii) learning fundamentally alters one's perceived

existence as ‘nigger’ from the perspective of a slave master; and (iii) that Douglass’ enslavement is in some important sense contingent upon his illiteracy.

Third, and final, there is in this narrative a portal by which one might access the larger ‘freedom reality’ towards which the competing narrative points. Douglass, in reflecting on the situation, relates the following: “**I now understood...the white man’s power to enslave the black man... From that moment, I understood the pathway from slavery to freedom.**” Here, we are able to envision the promised land, as it were, through the eyes of the slave. We gain access to the broader reality where the African is free to self-determine, free to become – simply free. As Douglass understands the pathway from slavery to freedom so, too, we through his experience understand.

As such, the narrative presented by Douglass constitutes a counterstory which he tells through oral presentation and through this written text. Douglas engages in counterstory-telling as a critical pedagogical act – the relating of a narrative to an audience as a means to destroy internalized white supremacist ideologies. Herein lies the dialectical synthesis in my view. That is, the result of the dialectic between competing narratives culminates in a synthesis which is embodied in the act of counterstory-telling. In relating his narrative, Douglass assumes the role of critical pedagogue along with countless other African Americans engaging in counterstory-telling.

Critical Math Literacy

The third and final frame which contributes to the theoretical notion of racial justice at which this study aims is that of **Critical Math Literacy**. The understanding that I have developed of CML recognizes it as a corporate effort by math educators to teach mathematics for social justice (Alleksaht-Sinder & Hart, 2001; Anderson, 1990;

Frankenstein, 1990; Gutstein, 2005) Its most recent iteration, formulated Eric Gutstein (2005), has deep pedagogical roots in the critical pedagogy tradition of Paulo Freire and is further informed by the culturally-relevant pedagogy of Gloria Ladson-Billings.

Morrell (2008), in arguing for ‘critical literacy’ as a product of instruction, notes: “It is a given that the acquisition of dominant literacies is crucial to creating more equitable spaces in the world; but it is also true that literacy instruction does not need to occur in a social, cultural and political vacuum. Nor should dominant literacies be the only focus of interventions in schools and other pedagogical spaces.” (p.4) Though NCTM standards documents (1989, 2000) intimate the need for teaching math in view of social justice, as argued above in the first chapter, this notion of equity simply means aiming for parity in scores by teaching all students equally, not necessarily equitably. Critical Math Literacy, as coined by Frankenstein (1990) and formulated by Gutstein (1997, 2003, 2006), pushes on this normative notion of equity by using mathematics to address a multitude of social justice issues. Gutstein’s pedagogy presses beyond ‘pipeline’ arguments in which equity is poorly-conceived *and invoked merely in the service of national economic competitiveness in a global order* (Apple, 1992; Gutstein, 2003; NCEE, 1983), towards addressing mathematics to issues of social justice at macro-, meso-, and micro-levels. Largely envisioning his pedagogical framework as a liberatory tool from oppression in the Freirean sense, Gutstein’s (2006) formulation situates teaching math for social justice as a dialectical relationship between a set of mathematics pedagogical goals and a set of social justice pedagogical goals. While his mathematics pedagogical goals (functional literacy, academic success, and positive orientation towards math) gear students towards academic proficiency and success in the traditional sense, his

social justice pedagogical goals (critical consciousness, social action, and cultural competence) are aimed at developing a critical literacy with which students can engage and transform their worlds (Freire & Macedo, 1987). Herein lies the value of his critical pedagogical approach.

Gutstein & Peterson (2005) provide tangible results of such pedagogy in assembling a collection of articles which offer “rethought” instructional approaches to mathematics in view of social justice. The collection of problems presented therein help math instructors frame mathematics as a valuable tool for investigating and advocating for a host of social issues ranging from sweatshops, marginalized number systems, and military spending to ethnocentrism in cartography, HIV/AIDS, and slavery. While the book does offer what amounts to valuable instructional ideas for practitioners, the broader argument being tapped into is that mathematical knowledge is socially-constructed and, as such, when used by individuals in a sociopolitically conscious environment, can help individuals make sense and engage their worlds in ways that can be transformative. This is the reading and writing of the world that Gutstein aims for in his work (Gutstein, 2006).

Critical Math Literacy, as a pedagogical frame, makes very particular claims about mathematical knowledge and student identity that are important to the work conceived in this study. Apple (1992), like Bowles & Gintis (1976) positions schools and schooling as key in the support and reproduction of the social and economic order of American society. As such, schools are at the same time responsible for the reinforcement of the mathematical knowledge that is key to individual participation and national prominence in global, industrial market economies as well as that required for

democratic participation. Given its centrality to the economics of science, technology, and industrial growth, mathematical knowledge takes on a *highly-prized status* which has important implications for national standards, curriculum, instruction – as well as the official knowledge which gets represented therein (Apple, 2004; 2006). “What *counts* as knowledge, the ways in which it is organized, who is empowered to teach it, what counts as an appropriate display of having learned it, and – just as critically – who is allowed to ask and answer all of these questions are part and parcel of how dominance and subordination are reproduced and altered in this society” (Apple, 1993, p.222). This largely excludes the content, relevance, and relative contribution of ethnocultural mathematical knowledge to the broader constitution of mathematical knowledge (Anderson, 1990; Frankenstein, 1990; D’ambrosio & D’ambrosio, 1994; Eglash, 1997; Powell & Frankenstein, 1997; Powell & Temple, 2001). As such, the CML pedagogical frame seeks to equip students with the functional [read: *dominant*] math literacies that are prerequisite to high mathematics achievement within schools as institutions, while simultaneously equipping students with the critical math literacies that are fundamental to deconstructing and analyzing their experiences in a critical context (Gutstein, 2006). Mathematical knowledge, then, becomes important not simply for the sake of dominant literacies, in and of themselves, or even the access they provide – but also as a tool for transforming the structures which shape racial inequality in the first place.

As I mentioned earlier, Gutstein (2006) in formulating CML significantly relies on a Freirean critical pedagogy along several dimensions. Most important to the development of my concept of *racial justice* is Freire’s (1970) discussion of the development of student identity in the context of critical pedagogy of/for the Oppressed.

Freire's (1970) pedagogy is rooted in a host of presuppositions which I cannot detail here. However, in its essence, the goal of the Pedagogy is the re-humanization of both the Oppressed and their Oppressors through libertarian education. Cast in opposition to 'banking' education which positions students as empty receptacles into which teachers deposit *their* knowledge, libertarian education seeks to solve the teacher-student contradiction (teacher as Subject; student as object) through participation in *dialogue*. This plays out in important ways when we think of the formation of students' multiple identities because of how *student participation* gets re-defined in the process. As students are allowed to participate in Dialogue, mastering a discourse of interrogation and transformation, they are able to develop the identities of free persons. Argues Freire (1970/2005):

"This solution cannot be achieved in idealistic terms. In order for the oppressed to be able to wage the struggle for their liberation, they must perceive the reality of oppression not as a closed world from which there is no exit, but as a limiting situation which they can transform. This perception is a necessary but not a sufficient condition for liberation; it must become the motivating force for liberating action. The oppressed can overcome the contradiction in which they are caught only when this perception enlists them in the struggle to free themselves" (p.49).

Functional literacies in mathematics, as such, are insufficient in and of themselves as tools for critical dialogue towards liberation. Given that liberation is dependent upon critical dialogue in this sense, math educators need to adopt a pedagogy that will equip students with the critical literacies in mathematics that can lead to the problematization and interrogation of oppressive conditions.

Locating Racial Justice

So, much has been said about the three frames in which my notion of *racial justice* exists and how these frames are situated with respect to key features of broader scholarship in CRT, Critical Pedagogy, and Identity. Before moving into the next

chapter, I would like to address how Critical Blackness, Counterstory-Telling, and Critical Math Literacy as theoretical frames complement one another so as to afford me a unique perspective in the proposed inquiry.

Gutstein's CML pedagogical framework rightly calls teachers to attend to the development of students' cultural and social identities. Writes Gutstein (2006):

"I define positive cultural identities to mean that students are strongly rooted in their home languages, cultures, and communities, but at the same time, are able to appropriate what they need to survive and thrive in dominant culture. By positive social identities, I mean that students have the self-confidence, perseverance, and courage that are necessary for them act [sic] on their sense of social agency" (p.147).

This is a key facet of his pedagogy which, in addition to meaningful problem constructions integrated into a typical (reform?) mathematics curriculum, lends to its cultural-relevance. Gutstein maintains that his actual teaching, however, was not culturally-relevant *ala* Ladson-Billings' CRP (1995) vis-à-vis his 'outsider' status in his work with urban youth of color. Positioning himself "as a white teacher with students of color" (p.147), Gutstein draws a very clear and honest distinction between his ability to help students develop their cultural identities and his ability to support students through validation. Even as simply being a Latino/a or Black mathematics teacher, however, is by no means sufficient for culturally-relevant teaching, so, too, being white is not a prerequisite condition for enacting a culturally relevant pedagogy in mathematics. That said, this moment in Gutstein's personal and professional reflection on his critical literacy project with urban youth in Chicago seems like a natural point of entry for situating (indeed, centering) *race* and *racial identity* theoretically in a grounded pedagogical framework. While the framework certainly deals with cultural relevance, allows for the modeling and exploration of elements of racism as it plays out in society, and provides for a focus on mathematics and social activist identities, the framework does not center

‘race’ in such a way as to provide for the framing of substantive inquiry and analysis of race or racial identity of any member of the community. In my view, Critical Blackness as a race-informed theory on racial identity allows for such inquiry in the context in which I am working.

While part of the drawback of the Cross Model (and psychological approaches to Black identity in general) is the relatively static nature with which it approaches identity development, it nonetheless provides helpful ideas for framing how Blackness presents itself at the various stages. The formulation of *Critical Blackness* here, because it examines ‘race’ through a sociocultural lens – i.e., an individual’s participation in and across communities (Lave & Wenger, 1991; Sfard, 1998; Nasir & Hand, 2006; Wenger, 1999) – allows us to attend to the significance of race, racism and racialized experience in the mathematics classroom in a way that few theoretical frames do (Martin, 2000; 2006). Through a Critical Blackness approach, ‘race’ can be seen to play out for individual students – given their particular set of personal circumstances and history, given the broader significance of racial status in society historically, and given the day-to-day practices of schooling.

Moreover, the focus on Counterstory-Telling here allows for student voices and local narratives to shape an understanding of racial identity development in ways that are critically-consistent with the rich legacy of African American education. While this is a solid approach to understanding, enacting, and engaging critical pedagogy with African American students, it also provides key insight into how narrative shapes and reveals identity (Sfard & Prusak, 2005). This is true for students’ racial identities – but it also is true for their mathematics and social activist identities as well. While CRT as a frame

has been used for thinking about education, and even mathematics education, I am not aware of any instances wherein the teaching and learning of critical literacies in mathematics is explored explicitly through the CRT construct of counterstory-telling. The situating of the teaching and learning of math in a CML pedagogical context, however, provides a very natural segue into conceiving mathematical knowledge production as ‘counterstory’. The following are some important questions that pedagogically-frame the Mathematical Counterstory: *What mathematics are commonly used to tell stories? How are the stories told instantiations of typical dominant narratives, only expressed through mathematics? How can we use mathematics in the service of creating competing narratives to counter those stories? What orientations to math, to schooling, and to achievement are necessary to tell those counterstories?* The potential for such a framing is very exciting!

As such, Critical Blackness, Counterstory-Telling, and Critical Mathematics Literacy are three crucial frames for understanding *racial justice* that create the possibility of very unique inquiry into the teaching and learning of mathematics for African American students. As I transition into a discussion of my methodology and the specific methods I use in conducting this research, I need to offer a word of caution. Given my particular orientation to the achievement gap discourse, as well as my thinking about what constitutes ‘equity’ in the mathematics education of African American students – ideas that I’ve discussed at some length in these two chapters – it bears mentioning that while I clearly expect that inquiry conducted through this ‘racial justice’ theoretical framework will bear some fruit in the way of practical understandings about how to improve specific mathematical proficiencies, the primary goal of this research

does not lay in developing instructional methods to bring such literacies to the surface, thereby allowing for the proscription of routes for practitioners to take in order to reproduce my results. In short, this study is not about how to help students score better. This study seeks to strike a balance between short- and long-term goals in mathematics literacy and equity, in order to develop a strategic perspective on African American math education that is *racially-realistic*. The reader, for example, should not expect a set of clear-cut classroom exercises that are guaranteed to help students develop particular functional or critical literacies. In that vein, I would like to disabuse the reader of the problematic notion that I am ultimately striving for some packet, some unit of well-constructed math problems, or even some series of professional development sessions that can be taken that will help math educators solve the problem of disparate African American math achievement, as many believed we *solved* the problem of racism through the Civil Rights movement.

Instead, the primary and overarching goal of this research is to help stimulate a conversation within the math education community that will contribute to changing our corporate thinking (if such a thing exists) on how race plays out in the mathematics classroom. The ultimate hope is that a fundamental change in how we address issues of race will eventually manifest itself across the policy, pedagogy, and practice dimensions that shape students' experiences in the math classroom. The ultimate hope is that this study can contribute to the work of the few bold scholars who seek to transform the "white power structure" so as to unfetter the struggle for freedom and human dignity taking place in African American communities.

A Word about My Pedagogy

In this chapter, I have surveyed a number of approaches to pedagogic engagement that have influenced the theoretical framing of this study. While these pedagogies are instrumental and foundational to this context, it must be said that the approach I take in this work is unique. If ‘racial justice’ is a foundational pedagogical principle for the teaching and learning of mathematics in the African Diaspora which is itself framed by Critical Blackness, Critical Math Literacy, and Counterstory-telling, then the task becomes to provide some insight into the operant pedagogy that I intend to facilitate the interactions with and between the high school-aged Black males within the spaces that will be discussed in the next chapter. That is, what exactly is the vehicle that guides and drives Black male interaction in these instructional and pedagogic spaces? I thought it might be appropriate to discuss some of this up front, and then to revisit it in the Discussion (Chapter 7) after the reader has engaged more fully with the study and the particular findings presented herein.

Positionality Among Black Males

As one who intends to engage high school-aged Black males in an educational and community setting, it is important to be upfront about the positionality that I bring to the work and how this uniquely-positions me as teacher and co-researcher in this study. First, it will be recognized that I identify and am identified as a Black male. In racial terms, I possess phenotypical, linguistic and other social markers that would indicate to the high school-aged Black males that I, too, am an African American. In spite of this shared racial identity, it would also be clear to these young men that I was not born and

raised in the same Los Angeles communities in which they live – perhaps betrayed by my use of a broad(er) West Coast lexicon and phraseological vernacular shaped by years spent between Los Angeles and Seattle, with lingering Southern phonetic roots influenced by birth and eight subsequent years in Dallas, Texas, as well as being regularly surrounded by family born and raised in Arkansas and Missouri.

Further, I am a heterosexual male; I am relatively tall and a former two-sport college athlete (football; track & field). These are attributes that set me squarely within normative notions of African American maleness, particularly with high school-aged Black males. I possess undergraduate training in mathematics, graduate training in mathematics instruction and educational research, and I am a former classroom teacher of secondary mathematics. Also, the students knew and understood that I was also a college professor at the outset of our work together; a teacher of teachers from a working class poor background, with middle class access, but who lived just across the street from where we regularly met – in the neighborhood. As such, while I clearly have succeeded academically through mastering and utilizing mathematics to some degree, I also live *around the way* and possess some familiarity with the neighborhood communities.

All things considered, the students would be dealing with a person unmistakably Black and male – one who is physically, socially, and intellectually present. These attributes all play a very important role in that they uniquely position me to interact and engage this group of high school-aged Black males in a sequestered, focused and purposeful space. As will be evident in the data chapters of this study, the positionality described above becomes an invaluable asset that gives me unique purchase with the high school-aged Black males and, therefore, tacit permission to engage them in a pedagogy

specially-designed to help facilitate the development of our space and our changing identities. These multiple identities, as they intersect and play out in the context of my interactions in the classroom and in the field, allow me to accomplish, engage, direct, teach and learn in ways that others cannot. My positionality among the high school-aged Black males paved the way for the unique pedagogy that I will begin to describe below.

Woodson & Fanon-to-Freire

Woodson (1993/1969) discussed the ultimate impact of the systematic mis-education of Africans in America on the outlook and future of the ‘race’; he argued that, in large part, slavery was an obsolete institution that had been succeeded by education writ large. According to Woodson, there was no need to shackle the body of the African in America because the institution of schooling in the United States had already shackled the Black mind. As such, Woodson argued it would be illogical to expect any substantive changes in the academic, social, and socioeconomic status of the African in America because those who were *best* educated among the race and, thereby, tasked with the stewardship and with the raising up of the African from slavery, were programmed to “go through life denouncing white people because they are trying to run away from blacks and decrying blacks because they are not white.” (p. xxxiv). “When you control a man’s thinking”, wrote Woodson, “you do not have to worry about his actions. You do not have to tell him not to stand here or go yonder. He will find his ‘proper place’ and will stay in it.” (p.xxxiii). The outlook then, in Woodson’s writing, was that educated Black men and women were really no better suited to provide instruction for the simple fact that they essentially hated themselves and those that looked like them. In the absence of any

revolutionary pedagogy of self-respect and respect for the African in America, Woodson argued, there would be no education proper – and, therefore, no liberation.

Among many of the lucid arguments Fanon (1963) advanced is that the African, within the colonial order, will manifest the hate and aggression that are natural by-products of colonization as experienced on the colonial front towards his fellow African. “He is in fact ready at a moment’s notice to exchange the role of quarry for that of the hunter. The native is an oppressed person whose permanent dream is to become the persecutor.” (p. 53) If it is a principle desire of the colonized to ascend to the position of the colonizer, yet he is restrained from doing so by brute police/military force and other social institutions, this struggle for ascendancy will naturally play out in the realm in which he has most control – that in which Black-on-Black relations are primary. This is, indeed, a permanent feature of the architecture of the colonized mind and subsequent behavior that Fanon so deftly sketches.

While this mentality provides important context for thinking about the practical antecedents for revolutionary acts on the colonial front, Fanon’s detailing of the colonial mind also holds deep relevance for thinking about the ways in which Africans (a.k.a., mis-educated Negroes) relate to one another. Freire (1970), deeply influenced by the life and work of Fanon, also picks up on this as he describes the *necrophilia* of the oppressed towards themselves and other oppressed individuals. Freire’s pedagogy, as such, required a “critical and liberating dialogue” to be engaged in by the oppressed as they struggle for freedom. The unique pedagogy that extends out of my role as a teacher-researcher in this study has important connections to this Freirean dialogue. While Freire argues that this dialogue will vary according to the historical conditions and reality of the

oppressed, it is important for me to acknowledge that this may look very different when we consider the circumstance of Africans in American, and certainly those in urban South Los Angeles. For reasons that have been touched upon earlier in this chapter, a pedagogy that is culturally-relevant in African American terms will look, sound, and be very different in dialogic terms than for the oppressed in other circumstances. I'd like to briefly focus on two key facets of this pedagogy as it is embodied in the critical and liberatory dialogue that will be featured in this study: *authority* and *respect*.

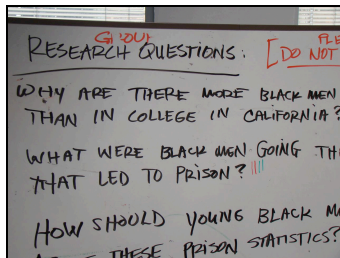
Exercising Authority through Respect

While much of this will become apparent as the reader explores the data and narratives of the latter chapters of this study, it is important to note up front that much of the conflict that regularly manifests itself in the experiences of Black males both inside and outside of school communities is sourced in what can be rightly considered abuse in the exercise of authority. This abusive exercise of authority can present itself on many fronts – from parents, siblings and extended family and friends [read: Fanon's native African aggression], to those who have authority over the lives of Black males by virtue of their institutional capacities [read: colonizers]. Teachers, counselors, administrators, school security and police. The school board, the superintendent of schools, the mayor and the governor – and, in a more nuanced perspective - judges, politicians, and legislators are not to be left off of this list. Within communities of color in South Los Angeles, the group of aggressors towards Black males might also include members of other racial groups – preeminently, Latino males.

While the reader might reasonably ask me to make the case for how/why the behavior of any one of the individuals on the above list could/should be construed to be abusive – or, indeed, how even some of these individuals might achieve a position of authority over Black males to begin with – I believe that case to be much less important at this point of this discussion than foregrounding the pedagogical imperative of respect that is intended to stand in contradistinction to those behaviors. Given the above discussion about the importance of self-respect as an African in America and regard for the humanity of other Africans in America, I propose that what allows me to be uniquely effective with Black males in educational settings such as the one privileged in this dissertation study is the exercising of the authority vested in me as a teacher-researcher through a diligent and due respect to the high school-aged Black males. This imperative is highlighted and bolded, when pictured against the backdrop of urban South Los Angeles with all of socioeconomic, political, demographic, and regional peculiarities that make it home. Throughout the study, the reader will observe that it is this pedagogy of respect, wielded by one with such a positionality as I, that allows high school-aged Black males to exist and thrive within the frames of Critical Blackness, Critical Mathematics Literacy, and Counterstory-telling. It is this pedagogy that allows us as participants to co-labor in mutual struggle, towards Freirean liberation, towards a continued African revolution in America, in South Los Angeles. I encourage the reader, therefore, to attend to this important pedagogical thread woven throughout the dialogue as it is presented in the data chapters that follow.

CHAPTER 7

DISCUSSION



'How are you a professor?' This was the question asked of me by the guys during our first week together in Summer Seminar. I knew exactly what they meant. My Angeles Park T-shirt, baggy jeans, and Converse sneakers did not quite scream out, *'Academy!'* Besides my clothes, I had also shared with the students a bit of my family history. So they knew exactly where I had come from and wanted to know how I had come to this place in life. We shared. Our stories blended together across the table during those first Check-In's with rugged harmony. Both of his parents were in jail so he lived alone with his two brothers – and they made their own way. Another has had to pass by the very corner where his father was murdered every single day since he was a young boy. This one had a father who struggled for many years with a crack cocaine addiction. This one had also been estranged from his father since he was a toddler and regularly fought with his mother and step-father. And this one lived with both of his parents. All of us loved our families deeply and, after sharing our stories, we all wondered with equal awe, indeed, how I was a professor.

Though it was a privilege to also share my academic and professional story with these young men, this was a summer that, for them, was to be filled with many more questions than answers. Having come to an important awareness of the systems of higher

education and imprisonment in the state of California, and our relative positions therein, these young men have already begun to ask deeper questions about our research, pondering what deeper explanations might exist for the trends we had discovered. Several times in the last few months they've asked what we are researching next, whether we will build on the current project and or not at all, and what questions we should ask to frame the work. All of this has been unmistakable evidence that their respective experiences conducting participatory action research has fundamentally changed the way they see themselves as social agents, as well as know-ers and do-ers of mathematics. It seems clear to me that they have also successfully incorporated these identities into their perceptions of themselves as 'young Black men'.

I set out to explore several important questions in this dissertation study – questions pertaining to the impact of critical student research on a number of aspects of student identity, as well as on community and school structures. In this final chapter, I would like to discuss the major findings of this study relative to those questions. Further, I will spend some time discussing the implications of this study for the field of mathematics education.

The Impact of Critical Research on Student Identities

A major goal of this research was to explore the potential impact of training in critical research on students' racial identity, mathematics identity, and social agency. In this study, I took a situated approach to understanding identity as directly tied to students' relationship to and within a community of practice (Lave & Wenger, 1991). In order to

track changes in identity, then, it became important to think about the ways in which changing participation in social practices constitutes changes in identity (Wenger, 1998). Specifically, attending to the ways in which students' participation changed in the social activity of the Summer Seminar provided important indicators of how students were relating to the community of practice – in this case, the group of folks committed to engaging in participatory action research as a means of becoming more informed and interactive within their social and personal worlds. In the data chapters leading up to this discussion, I have looked at student talk, classroom artifacts, engagement and/or disengagement across various tasks, as well as the group's broader orientation to and participation in a critical research project which explores incarceration and university enrollment among 18-34 year-old Black males in California's state institutions – all of which serve as important instances of social activity in our community of practice.

Racial Identity

The work of Cross (1971; 1978; 1991) and Parham (1989; 1993) have provided important frameworks for helping researchers working with African American students to conceptualize the types of experiences and thinking students may have, and how those relate to their perceptions of self. Cross' work is particularly important to this project because it conceives of social activism (and broader social change) as a unique and important site for tracking changes in African American racial identity. In this study, I have been able to track students' participation in the various practices they engaged in throughout the Summer Seminar. Along with the student researchers, I have been able to help construct a space – the Summer Seminar – that has provided this very context.

Students have seen the Summer Seminar as a location and space for engaging in social activism: For asking critical questions about their schools, teachers, and the law enforcement agencies they engage with on a daily basis. As a result of entering and working within this space, students have been able to see their participation as direct activism. They have known that the daily work we were engaging with was tied to the production of a critical pedagogic act (Lynn, 2004) – a film that tells a true story of Black men in South Los Angeles.

While I resisted thinking about students as falling into one or another of Cross' stages, it was clear that the high school-aged Black males who participated in the Summer Seminar thought about race and their racialized experiences in society in different ways – which could have very easily lent itself to analysis within the Cross framework. More important, however, was to observe the trajectory along which student participation and thinking would move as we engaged in various social practices aimed at unmasking white supremacy and supporting students' Blackness. According to the way I have framed Critical Blackness in this study, it is clear that students, in fact, recognized the existence and developed a critique of white supremacy. By engaging with written texts, film, music lyrics, and with other Black males (both peers and adults) – and through sustained dialogue regarding their perceptions of these artifacts and relationships – students were able to create and sustain a discourse around Critical Blackness at which this study aimed. Able to identify the ways in which comments, attitudes and social conditions both represented and perpetuated both dominant narratives about Black males in American society, the young men often positioned themselves in opposition to that ideology. Also, much of the participation that is traced in Chapter 4 conversely

demonstrates that students in some cases already had – but also adopted – attitudes and ways of relating to comments, attitudes and social conditions that positively supported their own subscriptions to Blackness. It seems that conducting critical research not only helps students to see themselves as valuable producers of knowledge (Morrell, 2004; 2008), key participants in civic society and the democratic process (Rogers, Morrell, Enyedy, 2007) and as urban youth who bring a wealth of cultural resource and experience to the learning environment (Gutstein, 2005) – but that, further, it can help them to explicitly process, problematize and counter the ways in which they have been racialized within society. As such, I believe the interactions in the Summer Seminar have moved from *support for* developing student cultural identities (Gutstein, 2006), to helping students *critically counter* negative racializations, as well as to *develop* positive racial identities rooted in their own definitions of Blackness.

Although its principles are interwoven throughout this study, it is important to note that the approach I took was not uniquely-centered on *cultural relevance* (Brown, 2008; Ladson-Billings, 1995; 1997; Gutstein, 2006). Rather, framed by an understanding of the need to help students develop a Critical Blackness, I tried to create opportunities for students to engage in dialogue and reflection around race, racism and their racialized experiences across the various communities in which they exist (Martin, 2000; 2006). Often times, students' different experiences of the African American sociocultural institutions would have clearly prevented me from thinking about common African American cultural experiences or artifacts around which to structure our tasks, dialogue, and engagement. Though we all experience family, church, and our community spaces

differently, for example, we have all been racialized. As such, the pedagogy I developed took that common experience into consideration.

Mathematics Identity

The juxtapositioning of students' work in the more narrow and straightforward math tasks (Appendix G) with that in those that supposed contexts that were relevant to students' interests (Appendices C & H) reveals very stark differences in the ways students position themselves to the mathematics. In Chapter 5, I shared several important pieces of data including student work that suggests the high school-aged Black males in the Summer Seminar approached non-context driven mathematics with levels of enthusiasm that were unremarkable. Students thought about these tasks, at several instances, as not just unengaging but even as punishment. These types of mathematical tasks, then, can be thought of as being fairly consistent with the types of mathematicians students depicted in their portraits (Appendix B) – unengaged white males, who are socially-awkward and whose mathematical interests are spanned by and unintelligible upon the instructional whiteboard.

Student engagement with context-driven problems, on the other hand, demonstrated that students were not just engaged with the mathematics but that they, further, saw themselves as being engaged in important work that informed them about and empowered them to act in the real world – in *their* world. This signified an important shift in doing mathematics for the high school-aged Black males in Summer Seminar. It was not simply about doing math; it had become for them doing something (about one thing or another) *through* math. Such an approach engendered a new perspective about the utility of mathematics in the minds of high school-aged Black males; once again,

math becomes a tool for doing in and knowing about the world. The importance of having more sophisticated mathematical content knowledge becomes reinforced, then, as students look to ask deeper questions, develop more powerful models, and more nuanced explanations of the social and physical phenomena they are interested in.

Under different circumstances in any other math classroom, students may have been thrilled to engage with Sudoku puzzles, or rate problems, or T/F Math Sentences. These math tasks provide students with important opportunities to participate – an important aspect of equitable classroom environments. That said, constructing math tasks in ways that do not attend to students racialized experiences and identities in math instruction is simply another way of reinscribing colorblind philosophy into one's pedagogical approach (Bonilla-Silva, 2006) – '*I don't see race, I just see kids*'. Again, constructing math tasks that allow for equitable participation is a necessary but insufficient approach to teaching mathematics in *racially-just* ways (Franke, Spencer & Terry, 2009).

Social Agency

Given that the Summer Seminar was conceived as a space for locating social activism – and given that the most productive and supportive mode of engagement in mathematics was clearly that which was context-driven and pertinent to students' social worlds, it stands to reason that students' exercising of their social agency was a natural outgrowth of their changing participation in the racial and mathematical worlds defined within this study.

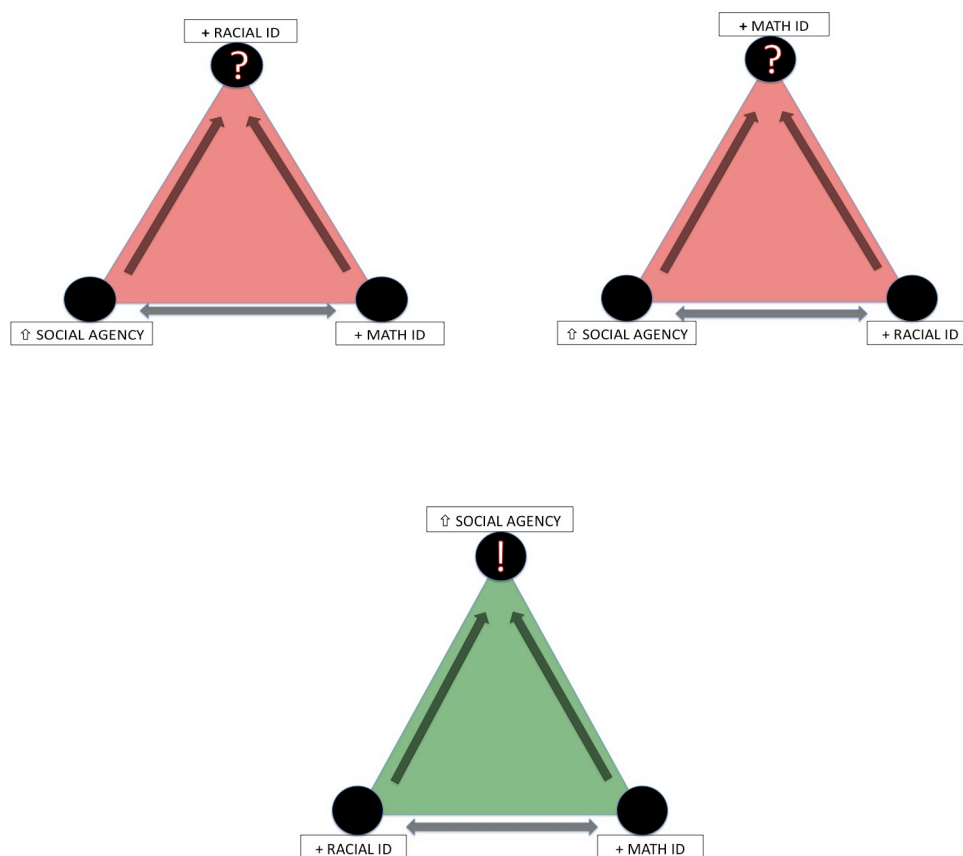


Figure 18. Differential yields in combining particular pedagogical goals

As we have already observed in Gutstein (2006), combining social justice (social agency) and critical math pedagogical (math identity) goals does not necessarily yield a classroom environment that facilitates the development of positive racial identities. While such a classroom can certainly function as a supportive environment for cultural, linguistic, gender and other identities – and while it may even engage in mathematics and social activity that problematize the ways in which students of color are racialized – it is clear that there are not sufficient immediate resources to help students develop racial identities in this context. The fundamental issue here is that not only has this approach typically played out in ‘colorblind’ ways in math classrooms, but that even when it has not, the mathematics teacher him or herself could have a positionality which problematically

interacts with the development of students' racial identities (Enyedy & Mukhopadhyay, 2007; Gutstein, 2006).

Combining social justice (social agency) pedagogical goals with an express attention to race (racial identity) in one's pedagogy also does not automatically support the kinds of positive orientations to mathematical content knowledge (math identity) we might hope for. Even if the participatory action research project was coupled with pedagogies that explicitly seek to help students develop positive racial identities as targeted and defined in the present study (such projects are scarce), we have seen that positive math identities are not necessarily the natural yield of such activity (Enyedy & Mukhopadhyay, 2007). Further, there is no reason to believe that mathematical activity, in and of itself, would be the vehicle by which participatory action researchers would naturally choose to exercise their social agency. Much if not all of this work plays out in other disciplines like community & public health, nursing, and public policy; relative to its instantiation in schooling, PAR has been mostly used in content areas other than mathematics (McIntyre, 2000; Morrell, 2004; 2008) and is pursued primarily through qualitative research methods, with the few exceptions discussed here.

As such, combining the goals of explicitly developing positive racial and mathematics identities that are undergirded by the conceptual and contextual parameters set forth in this study seems to be the most effective way to yield a natural exercising of social agency by students. This is most directly related to the fact that both the racial and mathematical pedagogical moves made by the mathematics teacher in this study are rooted in and driven by students' connections to and desire to (counter)act within their racialized worlds. That is, developing a Critical Blackness and pursuing context-driven

mathematical activity naturally leads to social activism. As such, adopting a PAR model seems to be a natural choice for such a project.

Critical Math Literacies in the Angeles Park PAR Project

The way in which the critical math research team positions itself towards the mathematics as related by the narrative provided in the *Expectations* film (Appendix J), makes it clear that the high school-aged Black males draw particular relevance from the critical nature of the use of mathematics in our PAR project. The second major research question organizing this study wonders what key critical math literacies arise out of the Angeles Park project. As observed with other instances of critical math, statistics lends itself quite well to supporting conjectures (Cobb, McClain & Gravemeijer, 2003; Gutstein & Peterson, 2005) and justifying the kinds of mathematical and social justice claims that we might be interested in helping students make (Cobb et al., 2001; Enyedy & Mukhopadhyay, 2007). And though I devote the major portion of the data chapter on mathematics identity to detailing the ways that context-driven math tasks create unique opportunities for students to develop and deploy math content knowledge, the high school-aged Black males in this study did, indeed, develop and deploy some very straightforward critical math literacies in the course of conducting their research. Below are the most important examples:

- *Attaching social significance to patterns, trends and other quantitative data.* The high school-aged Black males in this study regularly sought out ways to make sense of the information we engaged during the Summer Seminar by ascribing to it social significance. While in some cases it would suffice to speak to one's observations about the behavior of patterns or trends, these young men often moved past this by applying a second order of analysis – i.e., what does this mean for Black men? How does this apply to me and/or my community? Is it possible to change this pattern or trend? If so, how? If not, why?

- *Challenging the veracity of data and its supposed meanings.* As detailed in the film (Appendix J), one of the most important lessons learned in the Angeles Park PAR project was not to take for granted research or data compiled by another group or individual – even if one has no reason to doubt its veracity other than for the sake of the integrity of analysis. After realizing that Mr. Cam’s data was not quite what we had expected⁹, and that perhaps this data painted an incomplete picture, students learned that there was value in engaging in the process of data collection themselves. In addition to facilitating a more critical orientation to data and data collection, this experience helped them to understand the nature of assumption and the role it plays in what we claim to ‘know’. Students were able to speak more confidently about their analysis and conclusions, as a result. As such, challenging the veracity of data necessarily entailed aspects of collecting and confirming data.
- *Seeking alternate interpretations of data.* In discussing the trends observed in 18-34 year old Black male data from the CDCR and UC/CSU systems, as well as that from the Daily Breeze article on the policing of Los Angeles, the critical research team found it productive to challenge one another’s interpretations of data. Students realized that based upon the assumption one carries into research, assumptions that are shaped by one’s experience, there are a variety of possible conclusions folks can and do draw from data. Based upon the degree to which we were able to share a common set of assumptions about the society we live in, and the structures which shape our experience of that society, we were able to come to some consensus about which explanations might best explain our data – while at the same time leaving the door open for alternate interpretations.
- *Constructing Mathematical Counterstories.* As detailed in Chapter 5, the high school-aged Black males who engaged in critical research saw the importance of challenging the dominant narratives to were told about Black males; further the opportunity to challenge those narratives through the use of mathematical investigation seemed opportune. Again, this stands in firm contradistinction to the ways they related to the other math tasks we engaged in during the Summer Seminar. Constructing a MC was more than simply providing an alternate interpretation of data given the centrality, force, and dominance of the common sense views that are perpetuated through so-called statistical truth.

Transforming Community and School Structures Through Critical Research

The third research question this study attempted to address concerns the role of community and school structures in shaping the mathematics experience of the high

⁹ Caveat: Mr. Cam used different data sources than our research team. We had no detailed information about the process he took to gather this data, how his variables were defined and operationalized, etc. Further, his data reported only for the year 2001.

school-aged Black males who participated in the Summer Seminar – and, further, whether critical research could have a transformative impact on these structures.

There is no escaping the truth that students are constantly navigating the structures within both their school and neighborhood communities. Plenty of data in this dissertation study lend support to the idea that the structures of schools across South Los Angeles, as well as the relationships students have with school officials therein, have a direct bearing on not only the way that they experience the math classroom but also how their identities are shaped as a result. The high school-aged Black males in this study were not what we might consider strong math students. And, if judged by the sorts of measures we employ in schools to assess mathematical knowledge, these young men are nowhere near the top. Yet this study provides many examples of the brilliance students bring to mathematical inquiry if properly supported and encouraged by context-driven and relevant mathematical modeling. As such, what do we make of their position relative to school mathematics and achievement?

Oakes (2005) makes an important argument that explains why students develop the kinds of experiences they do around content areas like mathematics and the sciences. Evidence from her study suggests that, more often than not, the students who need the most ‘highly-qualified’ content area instructors, and who require the most equitable pedagogies available, often get the opposite. Therefore, the opportunities that students have to develop high-level mathematical skill and understanding are directly shaped by the tracking, ability grouping, and the systematic occlusion of learning opportunities that is endemic in California schools. (Rogers, et al., 2009).

The high school-aged Black males in this study shared stories of impossibly difficult teacher-student and administrator-student relationships in their schools. Black males often are navigating what seems to them to be the stalwart opposition of math teachers, counselor, administrators – and even the Los Angeles Police Department – in their daily experiences. The low expectations of and disengagement at the hands of those who ought to care most about their schooling is appalling (Delpit, 2006; DuBois, 1935; Spencer, 2006). This population of students experience schooling in a way that directly reflects their experience in broader society (Bowles & Gintis, 1976); ironically, nay – tragically, this experience conditions them for the perpetuated slave status made possible through inevitable working-class labor wages and the prison industrial complex (Noguera, 2003b).

Outside of schools is no different. The high school-aged Black males in this study are subjected to conditions in school which any sane human being would reject (Fine & Weis, 2003), and are summarily executed by ‘unfavorable’ socioeconomic and political conditions in broader society that exacerbate the effects of their lack of access in schools. What expectations are placed upon them by family and older members of their community in these situations? By prospective employers? Police? And what room do students have to make their way in this maze of expectation?

The question of whether or not critical research can transform these structures is an important but difficult one. An ideal answer would be, ‘Yes’. Such an answer is firmly grounded evidence stemming from the other PAR projects that have inspired the present one (Morrell, 2008; Rogers, Morrell, Enyedy, 2007). It is clear that those critical research teams were able to strike out and engage with a variety of key audiences –

university professors, the Los Angeles Unified School District board members and Superintendent; they were able to forge partnerships with other key community activists, parents, and other stakeholders. These types of audiences are not beyond the reach of this project. Clearly, the work of these young men have reached some of the powerbrokers in educational research and the mathematics education community. However, student researchers have not, at present, prepared themselves to begin engaging key audiences in strategic ways; though they have yet to come to that point, it is an important and forthcoming goal.

What I think is immediately evident however – and is something that bears consideration when discussing the questions of the transformative capacities of this PAR project on structures – is how students themselves are prepared to engage in transformative action relative to those structures. Because this dissertation study captures a snapshot of the development of the high school-aged Black males who participated, it remains in some sense unseen how the PAR project will impact the structures that shape student experience. That said, students themselves have as a result of this project been uniquely equipped and positioned to engage in such action.

Solórzano and Delgado-Bernal's (2001) theoretical construction of *transformational resistance* is productive for reflecting upon the various ways in which students of color make choices in direct response to their struggles with the various institutional, structural, and personal challenges they face within schools and in their neighborhood community. Solórzano and Delgado-Bernal (2001) define four types of behaviors that students exercise with varying degrees of transformational capacity: reactionary behavior, self-defeating resistance, conformist resistance, and

transformational resistance. These behavior categories differ based upon two dimensions: (a) the degree to which students have a critique of social oppression; (b) the degree to which students' behaviors are motivated by social justice. Student behavior that is neither motivated by social justice, nor provides a critique of social oppression is considered *reactionary* behavior; behavior that is both motivated by social justice and critical of social oppression is considered *transformational* resistance. Conformist resistance is motivated by social justice but provides not critique of social oppression; while self-defeating resistance critiques social oppression, but is not motivated by social justice. This is a powerful frame for thinking about student behavior in this context because it allows us to look at the gamut of student behavior without positioning students of color as passive responders in society.

This construct can be applied productively to the behavior of the critical research team in their day-to-day interactions, as well as their grand project, in order to determine whether the resistance that is embedded in their PAR project can be thought of as transformational. I argue the PAR project, which culminates in the *Expectations* film, is an example of transformational resistance for several reasons:

1. Students' engagement with and decoding of African American literature, film, art, and music provided a foundation for articulating a critique of the various ideological and institutional forces which shape their experiences as Black males in American society. The students did not simply accept these narratives blindly, but measured them constantly against their own experiences, as well as with those of the Black males they interviewed throughout South Los Angeles.
2. As a result of the impression made on the critical research teams by the past PAR projects conducted by other urban youth in Los Angeles, as well as the ways in which these efforts resonated with their personal desires to act in the world, students engaged in the Summer Seminar and its research agenda with the express purpose to act, to do – as a way of interrupting what they perceived to be the

unethical and immoral treatment of African American males in the state of California.

3. Both the qualitative and quantitative data that the students marshal in the Expectations film, including the details of how it is coded, group, analyzed and presented in the film, is powerful evidence for a desire to transform society. Students arrange the voices of the Black males in their film in such a way as to provide a narrative that critiques the African American social condition as it pertains to the community's men – focusing particularly on schooling, prison, the justice system, and the economy. Further, the project in all of its aspects from conception to execution represents concrete steps toward acting in the interest of actualizing a social just state of affairs for the Black men in their community, across Los Angeles, and in the state of California.

For these few reasons and more, it is clear that the high school-aged Black males are progressing towards intervening in a way that envisions the possibility of transforming structures. Before that possibility can be realized, however, students themselves need to be properly equipped to engage an unforgiving world. That means, at its most practical level, that the high school-aged Black males in this study should be (and are) able to not simply know how social institutions reproduce inequity in Black America but, moreover, to know how to *live* in it – not with apathy and resignation, but in struggle.

In their conversations with Black men across South Los Angeles, students clearly understand that the persistent social conditions that affect the Black community could not possibly be because all Black people are the same and, therefore, subject to similar social outcomes. That is, the causes of poverty, institutional racism, and slavery through incarceration are not sourced in the actions, attitudes and behaviors of Black men and women. Rather, society is framed in its very constitution by pillars that have consistently structured the Black experience towards the margins of society. These young men have to first understand how to live among these structures. Second, to transform them. I

believe there is sufficient evidence embedded in the experience of the high school-aged Black men to suggest that they are well on their way to transforming those structures.

Implications of the Study

This dissertation study is a direct attempt to press those who do research in mathematics education to think more carefully about what constitutes inequity, thereby empowering us to shape more specific aims at equity. I have tried to push the conversation beyond talk about ‘achievement’ and ‘gaps’ and misguided notions of equity. In this study, I have sought to employ a very specific set of ideas about how we can engage Black males in mathematical inquiry; I have stood on the shoulders of some very sturdy individuals in order to make the argument that in order to effectively engage in the teaching and learning of mathematics, we need to be a bit more thoughtful about how this is done. I owe much of my argument around critical use of mathematics to the great (in stature, not necessarily in number) host of individuals who are committed to teaching math for social justice. I wholeheartedly believe in the goodness of this approach. To push back on this community, though, is a natural by-product of my own participation in this community of practice as an African American math educator.

What is unique about this exploratory study is that I found it necessary and productive to step outside of the confines of public schools. There are tremendous affordances in doing so that need to be acknowledged. Several important affordances I’d like to note: By creating an alternative space for the mathematics education of Black males, we were freed from the daily pressures of school, its bureaucracy, and the instructional and assessment imperatives that have carved distinct contours into the

landscape of urban schooling. The Black males I worked with were brought into a community space in which they had already established loving, caring and nurturing relationships with adults who, although subject to a different sets of pressures (those of a community-based organization), were not responsible for schooling these young Black men. Further, because of these freedoms I was able to develop instructional objectives that were exploratory in nature – while engaging them as a problem-posing educator (Freire, 1970) – thereby allowing time and space to investigate the ways in which my ideas about mathematics, racial identity, and the social agency of high school-aged Black males might interact productively. As such, I think there are a number of important implications that this study has for the field of math education, for pedagogy, and the landscape of teacher preparation for urban schooling in general.

Alternative classrooms as “Counter-space”

In their powerful work on CRT and campus racial climate, Solórzano, Ceja, and Yosso (2000) used a grounded theory approach to analyze data from focus group conversations centered on the racialized experiences of thirty-four African American students at three elite-Research I institutions. From this data emerged the concept of academic and social *counter-spaces*. Counter-spaces are functionally defined as “sites where deficit notions of people of color can be challenged and where a positive collegiate racial climate can be established and maintained.” (p.70) Counter-spaces are analogous to the alternative space discussed in this study (constituted in the Summer Seminar) in at least three important ways: (1) In academic terms, counter-spaces allow students to advance their own learning in a context of support and respect while simultaneously

validating their knowledge-experience within the academic institution; (2) in social terms, the counter-space allows students space to debrief their frustration with racism and racialized experience with colleagues who have similar experiences; and (3) counter-spaces are sometimes co-created through understanding and solidarity with African American faculty – thereby potentially existing both outside of and within the academic institution. The data in the previous three chapters of this dissertation clearly indicate that, congruent with the ways in which the African American university students in that study experienced racial microaggression and, consequently, created and utilized counter-spaces to flourish both academically and socially, the high school-aged Black males in Summer Seminar used this space to debrief, process and move along academic and social trajectories in ways that they simply could not in their schools and, in some respects, in their neighborhood communities. The Summer Seminar then, as an alternative to normative schooling in mathematics, provided the high school-aged Black males in this study a functional counter-space which they, then, actualized through the particular forms and instances of participation detailed in previous chapters.

Based upon the results of the present study, we can conclude that alternative spaces as “counter-space” are productive sites for supporting and developing personal and academic identities. It is clear that the Summer Seminar, in part because of its functional value as counter-space, served as an important prelude to the mathematical counterstory-telling that played out in salient academic terms in this study. Further research is necessary, however, to determine whether alternative spaces for mathematics education hold any measurable promise for improving academic outcomes for Black males as might be observed in national, state and local measures such as standardized

tests, high school exit exams, and scholastic aptitude tests as well as other school-based measures. Noguera (2003a, b), Ferguson (2001) and others have provided scholarship that productively problematizes the marginalization of Black males in schools; by extension, we can reasonably expect Black males to also be marginalized by and within the measures of the effectiveness of schooling in mathematics for these students. There are also a number of nascent efforts across major cities in the U. S. to create separate learning spaces for schooling Black males (private and charter schools). Researchers would do well to apply a number of frameworks and methodologies to the study of these types of environments, attending specifically to achievement as well as identity development in this context. What role can non-school spaces play in the education of Black males in urban and suburban communities? How can these non-school environments function as effective counter-spaces that further the academic and social development of Black males?

A Pedagogy of Respect

Reflecting upon the daily instances during Summer Seminar wherein the content and direction of class conversations and student work provided unique moments for pressing on towards the *racial justice* frames of Critical Blackness, Critical Mathematics Literacy, and Counterstory-Telling has left me convinced that the unique pedagogy at work in this space was at once both a product and requirement of our successful corporate interaction. In Chapter 2 of this dissertation study, I dedicated a small space to briefly outlining the logic and development of a personal pedagogy of Respect that (when considering my own positionality as well as the fluid personalities, identities and

dynamics in the counter-space constituted in the Summer Seminar) has allowed for progress with respect to those three frames. I will discuss here a few more thoughts about this pedagogy and what may be implied.

Fanon (1963), in describing the differences in the distance that is maintained between the colonizers and colonized in various states, argues that while there is a much more ‘civilized’ buffer [read: moral, ethical, cultural agents] between the powerful and powerless in capitalist countries, it is the police and military that maintain this distance in colonial countries. “The intermediary”, he states, ‘does not lighten the oppression, nor seek to hide the domination; he shows them up and puts them into practice with the clear conscience of an upholder of the peace; yet he is the bringer of violence into the home and into the mind of the native” (p.38). The description of the role of violent force as used to police the native here bears striking resemblance to the historical conditions experienced by African Americans and others people of Color in Los Angeles, especially as portions of the city have systematically become ghettoized (Davis, 1990). While this has certainly been proven true of the L.A.P.D., one can also construe this struggle for power playing out within Black communities in Los Angeles – particularly as we think about the contention for power that becomes apparent in the ways in which Black gangs operate and maintain control of their neighborhood communities. Therefore, if *Violence* (understood as a dehumanizing force) can be said to be an irreducibly complex element of the pedagogy of the colonizer of Africans in the Diaspora, it stands to reason that *Respect* (understood as a humanizing force) is its analogue in the pedagogy of the de-colonizer of Africans in the Diaspora. It is here that I understand Freire to depart from Fanon; and while violence and upheaval are part-and-parcel with nationalism in a

colonial state, the post-colonial context which characterizes urban communities like South Los Angeles demands, at the very least, a *Pedagogy of Respect* when working with individuals engaging in a process of mental, physical, political and socioeconomic decolonization.

We are familiar with the mechanics of Violence in urban spaces. If nothing else, YouTube and the vigilant lenses of cell phones see to that. We are much less aware, however, of the mechanics of Respect¹⁰ in urban space. What is unique about this dissertation study, then, is it provides some insights into the ways in which a Pedagogy of Respect can be utilized under certain circumstances to engage urban youth – here Black males – in a process of re-humanization.

Given the arguments made in Chapter 2, the reader must acknowledge that this is a very specific instantiation of critical pedagogy that has been tailored *in situ* to suit the specific demands of an African American, male, and urban context. Many critical pedagogues might disagree with some of the mechanics of the pedagogy implemented in the Summer Seminar – particularly around the authority I have assumed as “teacher”. Often, for example, I take the liberty of stopping conversation and challenging, correcting, and/or highlighting elements of discussion in the Seminar which conflict with or stifle my ultimate pedagogical goal of re-humanization. Whereas many Freirean educators might disagree with this mechanic, opting for a more “organic” dialogue wherein such action-judgments would be interpreted as overstepping (even subverting)

¹⁰ While one may certainly argue that ‘respect’, and many other ‘be’-attitudes, can be subsumed under ‘love’ in Freirean (1970) terms, Respect in some African American (and urban contexts more broadly) – is an important signifier of ‘right’ relationships. Some forms of Respect may or may not include a brotherly love (e.g., “You don’t have to love me, but you will respect me!”) *Respect*, as such, should be understood to employ a larger set of cultural meanings and understandings that can exist among African American and other urban youth which is not detailed in this study.

Freirean protocol, in this context I found that ‘immediate correction’, if you will, was a strategy that was/is culturally-congruent with our broader experience as African Americans – and therefore not simply acceptable, but effective in my interactions with the high school-aged Black males in this study. Such strategies should not be construed as banking because they represent a pedagogy that does not observe a Subject/object distinction – often because such interactions are intended to highlight that very distinction as they play out in and are embodied by student work and/or student talk.

The decisions I made in engaging these high school-aged Black males are heavily-influenced by my sense of the three supporting frames for ‘racial justice’ – Critical Blackness, Critical Math Literacy, and Counterstory-Telling. Observing and understanding what the teacher-researcher in this study does, how he does it, when he does it, and the results he obtains after doing it leads to powerful insights about the potential impact Black men can have with Black adolescents in such counter-spaces. The reader observes in the data shared in this study that implementing such mechanics facilitated a more full participation and more engaging dialogue between the Black male participants in the counter-space.

As such, this study constitutes a rare example of the relative effectiveness that a Black male educator can have with high school-aged Black males (Brown, 2008; Clark, Badertscher & Napp, 2008; Martin, 2009). The success of this process is undergirded by the unique positionality of the researcher, the co-creation of a counter-space for mathematical inquiry, as well as the Pedagogy of Respect that facilitated the day-to-day interactions in that space. However, given the paucity of data extending from an infinitesimal number of Black males who teach K-16 mathematics (Davis & Martin,

2008), my last recommendation is two-fold. First, we need to re-double our efforts to bring more African American males into the study of and teaching in the STEM disciplines – particularly, mathematics. There are a number of ways we might creatively fund this apart from state and federal dollars. Taking a cue from Anyon (1997), we might very reasonably require those local businesses and corporations who are responsible for the deterioration of city and community space to contribute to education through taxation. We might also consider an education tax for professional sports franchises, athletes, and other entertainers such as musicians who obtain major profit margins by soliciting the business of urban youth. Further, much in the spirit of the legal settlement with Big Tobacco, I do not think that it is beyond reason that the federal government could call companies which market products that target and contribute to the poor physical health of the working class poor (especially African Americans) to account by funding the reconstruction of urban and rural communities – a portion of which might very well contribute to the present cause.

Second, we need to accompany this injection of Black male professionals into teaching with an concomitant effort to study the unique role that African American male teachers can play in re-engaging Black males in the learning of the STEM disciplines – most importantly, mathematics (Brown, 2008; Clark, Badertscher & Napp, 2008; Martin, 2009). It is clear that my unique expertise, positionality, and experience allowed me to connect with students in ways that could be wisely used to support African American students in learning school mathematics. Despite the current economic milieu, investing state, federal and private monies in educational centers and institutes devoted to creating functional pipelines that can financially support the training of African American males

in mathematics instruction at the undergraduate and graduate levels, specifically, is paramount. We are so often quick to offer scathing social commentary on the absence of Black men in the lives of Black youth; yet few solutions are offered. We know far too much about the role that mathematical knowledge and literacy plays in determining educational achievement not to acknowledge that this is one very concrete analogue of this larger problem that can be directly addressed through policy, funding, and action.

Lastly, it is clear that the great proportion of African American students are not in classrooms with Black teachers. Having read this study and having thought deeply about the unique construction, context and pedagogy of this study, a good proportion of concerned and committed individuals will naturally ask themselves, “As a non-Black person, can I do this? Can I teach how he taught?” If this person has followed the data, the analysis and subsequent arguments I have made in this dissertation, the answer would clearly be, “No.” That said, readers might reasonably wonder how the unique approach of a Black male teacher-researcher with high school-aged Black males in South Los Angeles can inform a broader professional practice directed at Black males? As such, in addition to research and discussion of the role Black teachers can and do play in the education of Black youth, we need sustained inquiry into how white and other non-Black teachers of Black youth might teach mathematics for racial justice. Is this a possibility? How might they make sense of a pedagogy of Respect, given their own positionality, in professional practice? Can non-Black educators engage Black youth in classrooms in ways that not only support but also help students develop positive racial identities? Further, what are the implications for the answers to these questions for more

productively shaping teacher education programs to prepare their candidates for this reality?

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